

# THE TIMES

## Higher Education

### SUPPLEMENT

### 'Nil growth' plan could mean Lanchester cuts

by David Hencke

Lanchester Polytechnic could be affected by a nil growth budget being considered by Coventry education authority which would reduce its education spending by £1.3m in 1978-79.

Confidential budgetary forecasts were put before a special governors' meeting of the polytechnic on Wednesday. These show that the authority is seriously considering a budget which would have nil growth and have to absorb all inflation during 1978-79. If inflation continued to run at 20 per cent this would mean a cut of £1.3m during the year.

The proposals came immediately after neighbouring Leicestershire had decided to impose a nil growth programme for Leicestershire Polytechnic which means cancelling a student housing project worth £268,000 and already approved by the Department of Education and Science.

The document before the governors says: "The implications for public spending have become increasingly severe over the past months. In November 1974, the Chancellor of the Exchequer stated that public expenditure would be limited to 2.75 per cent growth per annum over the next four years. Since then, the economic situation has gradually worsened until the April 1975 budget reflected this by further cuts in public spending.

### Degree validation powers will go to colleges, CNAAs says

by Frances Gibb

The most important change facing the Council for National Academic Awards in the next decade will be the transfer of degree validation power to the colleges themselves, Sir Michael Chapman, the CNAAs' chairman, said this week.

Speaking at a CNAAs degree conference in London, he said he saw no reason why the academic staff of polytechnics should not validate courses, particularly as they were often already on the academic boards of their own colleges.

"We hope to move specifically to a situation where institutions can scrutinise new courses, looking to the CNAAs for almost automatic approval," he said.

Among the advantages of this transfer would be a reduction of the growing administrative burden on the CNAAs involved in submissions and correspondence.

In its first year it had about 4,000 students reading for more than 80 approved courses. This year it had more than 61,000 students following 87 courses.

It had been predicted that the CNAAs would award one third of all the degrees in the United Kingdom in another decade, but, he said, one could not be sure of this. However, the 1972 White Paper had envisaged a growth resulting in 20 per cent of the age group being in higher education, equally divided between universities and other colleges.

"On this basis the CNAAs would increase severalfold and it would seem wise to plan growth of less than two to three times its present size in the next decade."

The Duke of Edinburgh, visiting president of the CNAAs, received about 65 graduates from most of the country's polytechnics who had recently been awarded the council's degrees. He also received 18 students awarded research degrees and three students awarded doctorates.

He conferred honorary degrees on Sir Derfon Christopher, vice-chancellor and warden of Durham University, Sir William Childress, Slade professor of Fine Art at University College London, Sir Alec Islington, design consultant with British Leyland, Dame Kathleen Ollerenshaw, Lord Mayor designate of Manchester District Council, Professor Jean Piaget, professor of child psychology at Geneva University and Professor George Rugeley, professor of physics at Durham University.

### University pay—'a little of what we fancied'

continued from page 1

There are both negative and positive features about the position as it now stands. On the negative side our members have not received back-pay to which they should have been entitled if they had been treated as the same way as all other public sector employees. The arbitration award has not given a full measure of compensation for this.

On the positive side, the amount now awarded is higher than our claim for an adjustment of the statutory increases beginning October 1974 and the figures do provide a basis to obtain, at the end of the exercise, a level of salaries that begin to compare reasonably (though not at any rate) with other public sector employees.

A number of issues, however, do emerge from the rather traumatic exercise we have just experienced. (1) Because of the nature of our negotiating machinery we were not complete masters of our own house and were not free to decide, as an association, either on the precise timing of proposals or on the decision as to whether to proceed to take the proposals to arbitration. This situation we must look at extremely carefully.

(2) For the first time university teachers' demands in a public way and in a manner which the experience of most university teachers how the situation of the profession. This has both a public and a private dimension.

### Looking for the silver lining

continued from page 1

1973 said that the university world was becoming completely pessimistic; very soon it would merely be an extension of the sixth form.

By most standards, Manchester University is doing well. It won the Universities Central Council on Admissions "golden disc" for the most student applications this year.

The library is pressing for copyright status recognition of its comprehensive collection, and the University's share of the 1975-76 grant award means it will be able to fill all its vacant posts—but only with one year appointments.

Salaries are unquestionably the single greatest cause of the anger and loss in morale in the university, but anxieties about the future are related more to the threats to research, postgraduate numbers, and to the future of the university as a whole.

Professor of sociology—who has a label on his desk proclaiming "Expect a miracle" but who sees a silver lining to what he describes as "the total crisis of capitalism"—says: "We believe we are flexible and innovative, but the pressure on every aspect of university life is now so bad that we are moving desperately in all directions trying to find a technical answer to problems that can only be solved by extra resources."

While Mr. Prentice has aroused the fiercest antipathy in the university (and his alleged suggestion that universities should sell their art treasures to make ends meet has now passed into the mythology of Lord Crowther-Hunt seems a shadowy figure to the younger academics but a more sinister influence grise to more senior academics. Dr. F. W. Beckwith, executive dean of the medical school pointed out: "He has said in as many words that the universities have been naughty, and his answer is to put pressure on their resources and an academic salaries."

David Laidler, a professor of economics who sees such a grim future in Britain that he is emigrating to Canada, warned that Lord Crowther-Hunt's pronouncements seemed to indicate the destruction of university autonomy, adding: "Either he doesn't know what he is talking about, the most likely explanation, or the implications are very sinister."

"I can see a situation developing where Oxford and Cambridge will be reserved for the children of rich left wing and other universities will be left without research or post-graduate—more technical colleges. It seems to me to be saying is that you can have high salaries, but at the price of giving up everything else."

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### Two hurt as Cambridge sit-in forces new nursery talks

Cambridge University is in reopen discussions on nursery facilities for its members after an eight hour occupation of the Senate House in which a student and a professor were injured.

Two hundred members of the Nursery Action Group occupied the Senate House after the council of the senate, the university's highest executive body, had turned down proposals for a nursery scheme on financial grounds.

The students suggested a £10,000 programme for fully staffed nursery and crèche facilities for university students and non-academic staff, for which there is a substantial demand.

The vice-chancellor, Professor Jack Linnet, agreed to put to a meeting of the council of the senate a proposal for a joint working party of academics, representatives of

university trades unions, and NAC.

The occupation ended when the students agreed not to bring down any student occupiers. Mr. Allen-Mills, president of Cambridge students' union, said that his position, "It has certainly been on both main points."

When the occupation began, R. T. Tapp, the senior proctor, pushed to the ground and bruised hands were cut and bruised. "It was a forced entry," he said. "I was a forced entry."

supported the aims of the action group before this happened but when it comes to the four discussions, I was against it." Later a student injured in the leg when he spiked on railings outside Senate House.

The new academic structure of Polytechnic of North London has been approved by the Department of Education and Science and came into effect by October.

The new structure reduces polytechnic's academic staff to 82 members in 80, and is described in the report of one of "cautious optimism." In all fields the great majority of graduate recruits have expressed their intention of maintaining normal levels of intake.

Only 245 of the university's 1974 first degree recipients were believed to be unemployed at the end of that year. Graduates who had found jobs or further training places totalled 5,713.

This trends among those who got first or higher degrees in 1974 tend to confirm the general increased graduate entry into the public sector.

The Council for National Academic Awards is to approve six new Diplomas of Higher Education courses. These will be at Huddersfield Polytechnic, where the course will be linked with BA honours humanities and BEd combined studies courses; at Purdum, linked with BSc honours in combined studies; at Oxford linked with a bachelor degree course; at Wolverhampton linked with a humanities degree course; at Ulster linked with a BA combined humanities course; and at Cranfield and Lancaster College of Education, linked with a BEd course.

The Universities Central Council for Admissions has decided to drop a proposal to introduce a £2 application fee for all candidates applying for admission to universities.

The council has agreed that universities should be asked to pay an increased application fee for 1975-76. The fee will be £10 for each candidate admitted, an increase of £2 on the old rate.

£10,000 'freeze'—Mr Derek Robinson, chairman of the Social Science Research Council and former deputy chairman of the Pay Board, suggested this week to the Royal Commission on incomes and wealth that the salaries of those who earn more than £10,000 a year should be frozen.

It was not possible for everyone to maintain their living standard in the present economic climate, he said, and the higher paid were better able to accept cuts in their living standards than others.

Union votes 'Yes'—The Oxford Union Society voted by 493 to 92 in a debate on the Common Market on Tuesday that this House would say 'Yes' to Europe.

Phoney degrees: a THE Times investigation into the existence of phoney degrees in the United Kingdom. The investigation was conducted by Joel Hurstfield, 6 and 7.

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### SUPPLEMENT

June 13, 1975. No. 191

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### Education-for-oil deals mean £60m bonanza for Britain

by Frances Gibb

As much as £60m may be reaped by Britain over the next five years from education and training projects with oil rich countries as a result of the new Paid Educational Services scheme (PES) started by the British Council.

Under PES, universities, colleges and polytechnics in Britain will help many developing nations to mount educational projects as part of a package deal which includes contracts with British industry for design, construction and equipment.

About 30 multi-million pound projects have been planned so far in Saudi Arabia, Iran, Venezuela, Oman, Qatar, as well as non-oil exporting countries such as Greece.

As a first step towards establishing PES, the British Council has set up a special unit of three council officers, directed by Mr. Eddie Hale, former director of the council's Middle East department.

The main advantage for universities, polytechnics and colleges, who face an annual stream of overseas applications, will be that they will have an agency and a clearing house based in the British Council.

Such an agency would also help the countries concerned. "Our clients do not like dealing with individual institutions and academics, and if possible would like to find themselves a reliable agency," acknowledged by the Government, which has the capacity to manage and coordinate a variety of projects from overseas.

Mr. Peter Davies, a spokesman for the British Council, said many colleges would welcome the average students to fill their empty places, particularly if they paid the full economic rate for their courses.

Every level of further and higher education is likely to be involved in the scheme, from postgraduate level to the training of craftsmen. The full economic rate may vary from about £3,000 a year for a medicine degree course to about £800 a year for basic English teaching. The details of payment have yet to be worked out.

Projects in the pipeline include a £30m scheme with Iran by which Britain would train 500 technicians, 1,000 craftsmen and 100 instructors a year over the next five years. One of the 21 projects planned with Saudi Arabia is a £10-million scheme over the next five years in which Britain would investigate the need for educational technology, and supply the appropriate hardware. Another is a £10m scheme for a Saudi funded college in Britain to serve as a base to form links with British colleges and universities. A redundant college of education may be used.

Mr. Hassan says he did not realize that the course was unrestricted until Westfield College rejected his application. "I don't feel bitter or cheated," he says. "I don't use the degree for business. I just like studying mathematics."

Dr. Copen told THE TIMES that he would not comment and put down the telephone. Degrees without tears, page 9.

### Mr Fred Mulley is surprise choice as Secretary of State for Education

### Labour MPs fear substantial cuts

by Peter Hennessy

Mr Fred Mulley, 56, was appointed Secretary of State for Education and Science in the Government reshuffle on Tuesday night. In a surprise move he replaced Mr. Prentice, who resigned his seat in the Cabinet as Minister of Overseas Development.

Mr. Mulley, described by a ministerial colleague as "a moderate in the real sense of the word and a civilised, intelligent man," was promoted to the £13,000 post and a seat in the Cabinet.

He previously held the post of Minister of Transport or the Department of the Environment, where he was understood to have been unhappy about cuts in the road building programme and the cancellation of the Channel Tunnel. He pressed unsuccessfully in January for his responsibilities to be moved from the DOE and placed in a separate ministry.

His appointment to the DES was greeted with dismay in some Labour and Conservative circles. It was interpreted as an indication from the Prime Minister that substantial cuts would be made in educational expenditure in the coming months. Since Mr. Mulley has the reputation of being a moderate, departmental minister, it was suggested that Mr. Wilson was "padding him on the back" with the understanding that the Labour Party would not resist cuts, introduced in the autumn, when he would accept a pension and make way for a younger man in the major Government reshuffle expected at the end of the year.

It was said that Mr. Prentice was too strong a minister to permit substantial cuts in the education budget and disapproval was expressed by some Labour MPs that he had not been replaced by Mr. Wedgwood-Benn. Mr. Benn would probably have resisted cuts, introduced in the autumn, when he would accept a pension and make way for a younger man in the major Government reshuffle expected at the end of the year.

Mr. Mulley was selected at Warwick School and Oxford University. He won a scholarship to Christ Church in 1945 largely on the strength of an essay he had written as a prisoner of war on the use of elephants as currency in the German camps. He won a first in PPE and was a member of the Oxford University Law Society. He was elected to the House of Commons in 1950. He was called to the Bar in 1954 and speaks fluent French and German.

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I often wonder what the oil sheikhs buy  
One half so precious as the stuff they sell  
As the stuff they sell, I know

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### The 'degree' that did not count

by Tim Albert

A young businessman has been refused admission to an MSc course at Westfield College, London, because his first degree is not recognized by the University of London.

The case was discovered during an investigation by THE TIMES into unrecognised degree-granting



## 'Information pollution' is problem for new SSRC funds committee

by David Dickson

The Social Science Research Council is to establish a science policy research committee to promote study of the organization and funding of scientific research in Britain.

The chairman will be Professor Ralf Dahrendorf, director of the London School of Economics, and it is expected that the other members of the committee will be announced shortly.

Professor Dahrendorf said in London last week that in 1973 the research council had jointly decided that more research should be conducted into the conditions favourable to the development of science, and this committee will still pursue financial problems.

Money spent on scientific research should be considered as the investment of "risk capital", he said, and the new committee would be concerned with studying the most effective ways of making such investment.

Professor Dahrendorf said that it was necessary to think very carefully about how it was possible to maintain "responsible autonomy" in the organization of science.

"I am sometimes worried that autonomy is misinterpreted as the total withdrawal from the community in which we are living", he said.

"I believe that in the majority of disciplines it is possible to establish links with the general community which can feed into science a sense of what is important and desirable, and can even be helpful to the progress of scientific research."

A second problem that had to be faced was what the Japanese referred to as "information pollution"—the daunting amount of information that presented itself to decision-makers.

"There seems to be a case for taking a very close look at the instruments for the dissemination of information that we have currently available", Professor Dahrendorf said.

"In particular, we should be looking in the present range of scientific journals and digests of scientific information, and asking whether they serve the purpose of making information about research available in the way that they should."

Professor Dahrendorf thought that

a third problem was that we know too little about the mechanisms that lead to progress in scientific research.

"The research council system in Britain is one of the most rational forms of mediation between science and government that exists, but the question still remains of measuring the costs and benefits of research."

"Part of the role of the SSRC's science policy research panel will be to promote greater informed publicity about the development of science."

Referring to Government policy towards the universities, Professor Dahrendorf said a Cabinet Minister had recently told him that it seemed the universities could not win, since Conservatives considered all university lecturers to be "pink", while Labour felt all university students were middle-class.

"However, I am less worried about Government intervention in universities than some of my colleagues. The University Grants Committee acts as an effective buffer which would make it very difficult, for example, for the Government to impose an allegedly manpower-planning oriented policy on the universities."

Answering the allegations, Mr Geoffrey Cawton, the university's registrar, said: "Any proposals for expansion or introducing additional staff are really impossible to deal with; universities are in the contraction, not the expansion, business. We have just found the school new premises, which may help, but regarding extra resources, it really isn't on. But we've got the needs of the school very much in mind."

The report urges the university to take the schools course seriously and give it adequate finance. The college's provision is far below the national level.

Apart from this, the main cause of the tension and the personality clashes which ensued was the complete lack of any formal machinery for taking decisions, the report says.

It advises the school to set up various committees, including a school committee which would be similar to an academic board and would be in charge of school policy and finance with elected representatives of staff and students.

The Ruskin master would have executive powers as chairman of the committee.

## University to blame for art school tension, says CAFD

Oxford University has been accused of treating the Ruskin School of Drawing and Fine Art as a "hole and corner operation" and failing to grant it adequate resources.

The allegations are contained in a report on the school by the Council for Academic Freedom and Democracy, published last week. The report, which was undertaken following the non-renewal of contracts of two members of staff, says the university was largely responsible for producing an atmosphere of tension and insecurity.

It concludes: "We felt bound to agree with one member of the teaching staff (who was in allegiance to either side during the dispute) that great responsibility lies with the University of Oxford whose indecisive attitude and unwillingness to commit even modest resources to the school produced an atmosphere of insecurity which was clearly responsible for exacerbating the conflicts within the staff."

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"However, I am less worried about Government intervention in universities than some of my colleagues. The University Grants Committee acts as an effective buffer which would make it very difficult, for example, for the Government to impose an allegedly manpower-planning oriented policy on the universities."

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The report urges the university to take the schools course seriously and give it adequate finance. The college's provision is far below the national level.

Apart from this, the main cause of the tension and the personality clashes which ensued was the complete lack of any formal machinery for taking decisions, the report says.

It advises the school to set up various committees, including a school committee which would be similar to an academic board and would be in charge of school policy and finance with elected representatives of staff and students.

The Ruskin master would have executive powers as chairman of the committee.

Another source of conflict was the number of part-time staff at the school, the report says. "The highly temporary nature of all appointments at the school, only served to increase the tension and of an already difficult situation and would be bound to do so, especially at this change."

Two-year contracts should be the norm (they have now become the norm for most members of staff) and all staff should have the conditions of service and right of employment under the Industrial Relations Act's code of practice for members of staff who have their contracts renewed.

A disciplinary committee, staff and student representatives should be set up with the right of appeal to the trustees, and a system of personal welfare should be reconstituted.

The school's trustees, who accused of failing to take the help of the school development committee institution "respect contemporary needs and should include at least two members involved in adult education."

Full-time staff should be increased to about 15, and the school should have only one full-time student.

Sir William Ivimey, chairman of the trustees and warden of the college, commented: "The report raises a lot of questions which have been present in our minds. I will reconsider them in the light of the facts but I don't think it is fair to say that it is a criticism of the school. This is something we have to consider."

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## Staff who support 'the wreckers' attacked by PNL director

by Frances Gibb

Members of staff who support student occupations were strongly criticized last week by Mr Terence Miller, director of the Polytechnic of North London. They were more dangerous than the student activists themselves, he said.

Speaking at the annual conference of the Association of Vice Principals in Technical Institutions in London, he said: "I do not regard students as the most dangerous element in the equation; the people one needs to watch most closely are the members of academic staff who support the 'wreckers'."

Colleges should set up counter-intelligence networks, he suggested. "These would detect the appearance of a serious situation to a committee which, when one has generated specific sensitivity and antennae, may be seen as a step towards some more distant goal."

Staff who supported students were generally in the social studies department, he said. "It is understandable that sociologists want to be associated with the changing of society, but they choose the wrong method for producing social change."

He recommended a policy of "aggressive tolerance" for dealing with "malignant" students or wreckers. They formed only 1 per cent of the whole student body, but their aim was to destroy. "I sit in my office and I feel the ability to say 'hang the ringleaders'. One can unfortunately do it."

A primary task was the counter-circulation of information to all members of staff and students, giving "accurate and uncoloured" facts of what had happened. He continued: "The 'wreckers' are very well organized. Their main resource is the use of words, the use of words to create a picture of the facts gets into the public eye."

Information distributed by students contained "the usual double talk, innuendo, and every kind of distortion and slant. And they are experts in harnessing the external media, so a completely distorted picture of the facts gets into the public eye."

Clear guidelines should be issued on what to do in the event of a sit-in, and the administration should ensure that morale was supported.

An attitude of "bleed indifference" towards the activists was the most successful, he said. "This is



the weapon these people have no means of encountering. If you give them the impression that you are important, they become important. If you treat them as an example of buffoonery... they get angry and are then demonstrating a weakness which can be exploited."

But the real power to solve the situation lay with the mass of the student body and not with the administration, he said. The main objective should be to mobilize the student population to counter the malignant student vote. Final victory was achieved only when the malignant committee had been voted down in a regular and properly conducted students' union meeting.

Cambridge University has been strongly condemned for yielding to student demands after an occupation of the university senate house, in a letter to The Times last week.

Mr Robert Carr, Conservative MP for South, said: "I am appalled that in reacting to a forcible occupation of this kind, the university authorities should consider it right not just to grant the occupiers' demands under what appears to be duress, but also to give them a blanket guarantee against any disciplinary action."

"How can we expect the police and the courts to enforce the degree of law and order which no freedom requires if the authorities of such an important institution as a major university set this example of subject appeasement of thuggery?"

No less important in the context of Cambridge itself, what respect can the prospectors expect to command to future if they try to take disciplinary action against any undergraduate who may have committed some comparatively minor offence?"

In reply to Mr Carr's letter Dr R. L. Tepp, senior professor of the university and Mr C. E. Baron, junior professor, wrote this week: "The choice that faced the university was between conceding enough of the demands of the alt-right to get them out of the building, which is what was done, or risk the cancellation of the honours degree ceremony as a few more minutes with all the officers in all the heads of state concerned which that would have involved."

Queen Margaret of Denmark and President Gwono of Nigeria were among those awarded honours degrees shortly after the occupation.

The police were stretched to their capacity just in preventing reinforcements from entering the senate house, let alone running the occupiers, said Dr Tepp and Mr Baron. In addition, a court order would have been necessary for this.

In universities these students whose main desire is disruption could at one time have been sent down without great difficulty. This is no longer possible in the end it is because Parliament has failed to solve the problem of balance between freedom and discipline that the universities will remain in their vulnerable positions."

A letter of support for the protesters came from Mr David Lane, Conservative MP for Cambridge. But he disputed their view that public or Parliamentary opinion was sympathetic to violent minorities.

CNA visit, page 4

## Anglo-Soviet clash ends rectors' conference

from Paul Moorman

VIENNA Moves to set up an all-European Association of Universities countries here in the weekend at the Conference of European Rectors for several delegations, led by British and West German vice-chancellors, vied against what they saw as wrecking tactics by the Soviet Union.

More than 200 executive heads of universities heard strong pleas from Sir Arthur Armitage, vice-chancellor of Manchester University and chairman of the Committee of Vice-Chancellors and Principals, and Dr Albert Sztanin, vice-chancellor of the University of Bucharest, to include the eastern bloc countries at the expense of the continuity and basic philosophy of CRE should be rejected.

The vice-chancellors were attending a meeting called to approve the teaching changes to the organization of the conference.

The changes had been agreed after long negotiation between the CRE executive and Soviet Union academics. They were designed to end the near total boycott of the CRE—on the grounds of its "cold war" leaning—by the socialist countries.

Just before the end of the negotiations and just weeks before the conference the Soviet Union raised new demands which would have meant dropping all reference to the immediate constitution to the previous existence and work of the 336 member CRE.

Founded in the early 1950s after a British/Benelux initiative, CRE has always placed great emphasis on the non-political aspect of the university and the importance of maintaining their academic autonomy.

At the same time, the British vice-chancellors were unhappy in the omission from the proposed revised statutes of mention of the role of universities as vehicles of "freedom of research and teaching."

Talks on a new constitution originated after a resolution passed at a UNESCO meeting of European Ministers of Education in Bucharest in 1973 which called for the establishment of a European Association of Universities based, if possible on the existing CRE structures.

Instead, the whole future of CRE now lies in the balance: the Soviet Union may decide to go ahead and set up a rival organization, and some existing members are likely to withdraw from CRE regardless of other developments.

After ten hours of often heated debate, the French, Italian and Yugoslav representatives walked out of the meeting because they considered the British and West German representatives were deliberately searching for ways to exclude the socialist countries.

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## Vision of Europe without educational barriers

by Alan Cane

Herr Guido Brunner, European Commissioner for Education, Science and Research, made clear his vision of a Europe without barriers to the movement of students, academics and professionals, in London last week.

He was trying to "make the educational market more transparent", he said, and an essential step would be to ensure the free mobility of the professions throughout Europe.

Speaking to a proctologic section of the Royal Society of Medicine, Herr Brunner said the doctors would lead the way. "In 18 months' time when member states will have adopted their legislation to accommodate the provision of the EEC treaty in the right of establishment, doctors will be able to practise freely in any of the community countries."

He went on to claim that it was important to open the way for people who might want to so extend their experience, although he did not expect a flood of emigrant doctors. "This might prove of particular importance for the younger generation of doctors, whose working lives will extend into the years of strengthened links between the peoples of the community. Indeed, I hope that the profession will also encourage exchange."



Herr Guido Brunner—"We can improve the mobility of students."

ment to make possible the movement of medical students. Earlier in the week, talking to education correspondents, Herr Brunner said that the doctors would be followed this year by the nurses, dentists, lawyers, and architects, and next year by the engineers.

## Hereford plea to Mr Benn

Three top Cabinet Ministers, Mr Benn, Mr Shore and Mr Crosland, have been asked by the West Midlands Planning Council to halt the economic decline of Herefordshire and save Hereford College of Education.

The new report by the planning council is the latest development in the bitter argument which has split the Hereford-Worcester Authority on whether it should close Hereford or Shrewsbury New College, Bromsgrove.

The report has been sent to the Ministers and follows an earlier survey which showed that an economic and social grounds the closure of the 650 student college would aggravate serious problems in the area.

Factors at the college say it strengthens their case for higher education to remain in Hereford. They also say that Hereford would lose an academic and cultural centre if the college closed, and the county planning authority says it would be a psychological blow to the future of the town.

A working party is examining the merits of both colleges and has reduced this year's expected deficit to £45,000, nearly £100,000 less than was feared. Mr Carter warns of a substantial deficit in 1975/76. He said the UGC grant for that year

## 'Full economic fury' yet to come, Carter warns

Mr Charles Carter, Vice-Chancellor of Lancaster University, has forecast a growing demand for much more severe cuts to public expenditure and says the full fury of economic trouble has not yet hit universities.

In a gloomy statement to Lancaster's academic staff and senate members, Mr Carter warned that if the prevalent unfriendliness to universities continued, Lancaster would be lucky to get through to 1977 without a cut in income leading to redundancies.

Universities would have to start thinking of "hit-and-run" unthinkably economies because of their economic difficulties. Mr Carter said. He blamed the shortage of money within universities on "insufficiently productive British economy and the big shift of resources to other groups of society."

In spite of economies already made at Lancaster, which here reduced this year's expected deficit to £45,000, nearly £100,000 less than was feared. Mr Carter warns of a substantial deficit in 1975/76. He said the UGC grant for that year

versity appeared to have received relatively generous treatment compared to similar universities. If the rate of inflation increased things could get worse and the hope of avoiding redundancies depended entirely on keeping the increase of costs within bounds, the vice-chancellor said. The university was trying desperately to have a reserve of funds to carry forward into 1976/77, and in consequence a very severe line on new commitments and on terminating existing commitments where possible.

Mr Carter forecast a rise in student room charges at a higher percentage rate than the 22 per cent increase in student grants.

## Environmental health

Thames Polytechnic has received approval for a four-year sandwich course leading to a BSc in environmental health by the Council for National Academic Awards.

The course is designed to meet the needs of the environmental health officer to local government health officer. South East London College will be involved in teaching many of the

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## Merger clash on resources

Polytechnic-college mergers are leading to an erosion of recreational programmes which will affect facilities for thousands of students, Mr Brian Maw, chairman of the Association of Polytechnic Physical Education Lecturers, warned this week.

The association is worried about a clash between its lecturers and college lecturers over resource provision in the new institutions.

Polytechnic lecturers see recreation programmes as a benefit to all students which can later lead to academic developments in a wide range of courses. College lecturers, says APPEL, see physical education as an adjunct to teacher training and are not as concerned about provision for all students.

"There must be a rationalization of these difficulties and new priorities will have to be established, but with joint planning and careful coordination of courses this can only be done by the mutual benefit of polytechnic physical education and recreation", Mr Maw said.

Whilst appreciating that the cut-back to teacher training places means that colleges must diversify or face possible staff redundancy, APPEL feels some disquiet at the rather desperate haste in some colleges to produce new courses for the sake of producing "courses for the sake of producing courses".

The association has also expressed concern about safeguarding of its members' career prospects since some college lecturers hold senior posts which can give them a distinct career advantage over polytechnic

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## Newsg in brief

### Diploma in terotechnology

A full-time postgraduate diploma leading to a degree in terotechnology—the only diploma of its kind in the country—the diploma covers engineering, management and science in technology and engineering. It is being introduced at the University of Manchester.

### NUS in Europe

The National Union of Students which was at the forefront of the anti-EEC campaign, has now to operate with Common Market regulations. The union's representatives agreed on Sunday to represent European student unions and interests are directly affected.

### Rector designate

Dr Patrick Nuttgen, the director of Leeds Polytechnic, has been appointed rector-designate of the new Leeds Polytechnic, which will be a merger of Leeds and Carnegie James Graham colleges.

### 30,000 visitors

Manchester University's Open Day surpassed last year's on an estimated 30,000 visitors to the university's open day. The museum attracted more than 10,000, the science centre more than 10,000, and the engineering centre more than 10,000.

## Safety seen as 'duty'

Local education authorities have called upon the Association of Technical Institutions to help combat unsafe working conditions in further education colleges by adopting policies to ensure regular on-site safety inspections.

In a new 16-page booklet entitled *Safety in Colleges*, the ATTI sets out the organization and procedures for creating a coherent safety strategy. Publication of the booklet, which has been prepared over the past 18 months by the ATTI's Conditions of Service Panel, follows the bringing of the colleges under the terms of the Government's Act for Health and Safety at Work from April 1.

The ATTI booklet notes that invited inspections by Her Majesty's Inspectorate have been helpful to colleges in the past, but that between inspections conditions have tended to deteriorate. The association writes that the approval is essential, and should be backed up by people on the spot.

While overall responsibility for safety in a college should rest with the principal, the individual teacher has an unwritten duty to protect his students from harm and to provide them with a safe working environment in safe working conditions.

The booklet also recommends that each college should appoint a safety officer from among its academic staff (at least Lecturer (T) level) who would have an appropriately reduced teaching load in order to carry out various coordinating responsibilities. Each college should also establish a safety committee consisting of the principal, a specialist advisor from the L.E.A. and college staff representative to support and advise the safety officer, the booklet states.

*Safety in Colleges*, ATTI, Hamilton House, Mablethorpe, Lincs, London

## Oxford college withdraws South Africa investments

Oxford's graduate college, St Antony's, has voted decisively to withdraw its substantial investments from South Africa. Less than a year ago these were estimated to total £664,686.

At the college's triennial general meeting, the governing body was urged to explore the most rapid policy of divestment. A motion specifically recommending divestment of those companies cited by the Anti-Apartheid Movement was passed by a two to one majority.

Mr Frank Snowdon, a student at the college, proposing the motion said St Antony's had an international and multiracial community. It was a humiliation and an outrage to bring students together to live by the proceeds of a system whose central feature was the denial of common humanity.

After the meeting, Mr Snowdon said he understood the investments were profitable and that their considerations of financial expediency militated against divestment. But he questioned the right of St Antony's to subsidize itself with profits which, he claimed, were based on genocide, forced labour and an inhumane social system.

Composites cited by the Anti-Apartheid Movement constitute nearly one-third of the college's total investments. However, St Antony's is not alone in deciding to disinvest in companies with South African interests. Earlier this year Lancaster University's council, with the backing of Mr Cheryl Cate, vice-chancellor, decided to sell shares worth £4,500 invested in Courtauld, ICI, Bechtel's and Shell Transport.

Mr Snowdon claims that the Church of England, The Trades Union Congress and other similar organizations have also sold holdings in companies investing in South Africa.

Bradford sit-in over fees

A sit-in of Bradford University's boardroom by 80 students was called off after 24 hours to allow the university's general committee of Senate to hold discussions over the Government plan to increase tuition fees by £70 a year.

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## Trade unions plan protest lobby against Government cuts

by Sue Reill

A mass lobby at Parliament is planned by the south-east regional council of the Trades Union Congress in protest over proposed cuts in education expenditure. The council wants the Government to rescind the economies and spend more on education.

Support for the lobby came at a special conference on education cuts called by the council in conjunction with teacher and student unions. More than 180 delegates from throughout the south-east voted unanimously in support of the action and urged members of Parliament, councillors and trade unionists to support their campaign locally for better education.

The conference motion declaring full support for the lobby outlined the campaign's aim to inform Parliament and the general public of the grave concern felt by the regional council about the future of education in Britain.

Mr Jack Dunn, a member of the National Union of Miners and chairman of the south-east regional council, made the call for a link between trades council county associations and teachers to get the campaign established. So far, response from the trade union movement generally had been low.

He was given backing by Mr Stuart Mackenzie, secretary of the council, who said everyone should be made to know the situation fac-

ing education. Answering a call for strike action from some of the delegates Mr Mackenzie said this, as in any industrial dispute, must be a last resort.

Mr Roy Jackson, of the TUC's education department, said education was bound up with the basic purpose of trade unions. Both enhanced the opportunities of working people. He expressed concern over the closure of colleges of education and stressed the need for them in working-class areas.

Non-mandatory areas of education were underlined as a particular danger zone by delegates. Mr Jackson said he could see a breakdown of the structure of the adult education system in this country and criticized the means-testing of married students on their spouse's income. He said education would always remain an important priority of the TUC and called for action at a local level among regional TUCs and trades councils.

Mr Bill Boden, education secretary of the Association of Teachers in Technical Institutions, also expressed concern about non-mandatory provision. This could spell the end of adult education.

He pinpointed cuts in part-time staffing as a threat to adult education. "In very many parts of the country these sorts of measures will result in the closure of courses, withdrawal of opportunities for a great many students and will produce a reduction of education provision and deterioration in the type of provision."

"In terms of provision of courses

and education environment a reduction in staffing must have consequences of grave concern to students and all concerned with them," he warned. Speaking of the south-east situation, Mr Boden claimed those who already got a minimum education benefits were being squeezed again.

He called for students not to be sold short and said the campaign to get the cuts rescinded should be extended into the labour movement as a whole.

Dr Marcus Morrian of the Association of University Teachers said there had been a failure in educating the general public of the critical importance of education and no one had failed more than the various institutions of higher education. If the comprehensive school system was underfunded large numbers of students would not be prepared for university. If universities were cut the secondary education system generally would be warped.

The declining child population statistics were a perfect opportunity to achieve essential education reforms, said Mr Sam Fisher, chairman of the National Union of Teachers' education committee. Now the Government had chosen to adopt stringent economies at a time when major achievements could be made.

This point was taken up by Fred Smithers of the National Association of Schoolmasters. He said the irony of raising the school leaving age was that no sooner was it put into operation than damaging education cuts threatened.



Students at Manchester University, including many taking their degree finals, are protesting about the uncomfortable examination conditions which have literally brought some of them to their knees.

Their complaints have been taken up by Mr Dave Carter, the Student Union Education Officer, who claims that some of the lecture theatres being used for the examinations are entirely unsuitable for the purpose, in particular the Arts Theatre in the Geography Building (pictured above), where the seats are too far back from the benches and the desks are

too narrow to hold the examination papers.

He is intending to take up the matter with the Registrar's Office, and has threatened to declare some of the rooms 'go' areas unless something is done.

A spokesman for the union said: "We are looking to the complaints. The Arts Theatre is not an ideal place for an examination and we understand that a recent refurbishing has made the situation worse. But we have not had any complaints from a vast majority of students. An examination time we have a find about 1,600 places, and it is not easy."

## PNL improvements for CNAA visitors

by David Hencke

Substantial improvements in the academic structure and staff development plans of the Polytechnic of North London are to be presented to the Council for National Academic Awards when a team visits the polytechnic today.

The visit was requested by the CNAA after a critical report, one of its visiting parties in 1973. At the time the report said that members were dismayed at how little progress had been made to integrate the polytechnic and were critical of the unwieldy nature of the academic board and lack of library provision and computer facilities.

This time the CNAA went to see the academic and physical development plan and to seek reassurances about the polytechnic's arrangements for the welfare of students.

Today's visit also follows preliminary visits to examine faculty and student facilities which were made earlier this year.

The main 114-page report to be presented to the CNAA says: "The reports from the committees of the academic board allow that the academic board itself is now firmly established and working well in its central roles of formulating academic policy and maintaining and controlling the academic standards of the institution."

"Arising from the CNAA comments there has been considerable discussion of modification of the academic structure. This work has resulted in proposals recently approved by the Department of Education and Science to reconstitute the academic board with a maximum membership of 50."

"Linked with these proposals there will be changes to the faculty boards to give greater representation of courses and a systematization of the course committee structure."

"Perhaps the most important aspects of these changes will be the downward devolution of responsibility to faculty boards and course committees to give them effective 'mouth' at the appropriate level of policy and decision-making."

The report adds that some progress has been made to consolidate development on one site in Holloway Road, although this has

been a major development programme having received much attention.

Two detailed reports are given on the coordinating and steering committee and the course approval committee. Both committees are shown to have wide briefs and to stimulate competition throughout the polytechnic.

Not that one enjoys marking scripts—God knows, it's the worst chore of the year. There they are in a pile before me, mute and mostly illegible. I know before I start that a tiny minority will be written in a firm, round, clear script, the remainder a jumble of styles: Backward Precipitous; Forward Inebriate; Grabbed Inebriate; Baroque Curlicued.

We need a new type of technocratic scanner of the sort the Post

office is supposed to be using for these insane post codes (which were designed by someone who was crossed in love by a typist but knew that Shift Key Shifting is a short cut to madness). With our new Script-Scanner, however, you feed exam scripts in, press a button, there is a purring sound, and clearly typed versions of each script emerge, to fall gently into a sanitized aluminium tray. The only drawback is the first law of computer technology: Garbage In = Garbage Out.

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## Don's diary

### Into Europe

Referendum. Voted "Yes" for currencies of reasons, positive plus negative. Mostly positive: historic-cultural-economic-political. We are an insular breed, and some of the Benn-Shore-Powell Little-Engelsdorf stuff made one squirm. Continental hothouses, not used to democratic institutions; unstable lot—not like we British, nurtured in 1,000 years of liberty, our constitution the envy of less mature democracies in Europe. As Powell spoke, Leeds fans ambling up a Taxis stadium, dancing on car bonnets, breaking café windows, reeling back to England, drinksodden. A connexion between the Benn-Shore-Powell line and the Leeds fans? "Wogs begin of Calais". If Europe drags us out of that attitude for good and all, that alone would be worth all the economic and political arguments put together.

As for that "loss of sovereignty" argument, suppose we had voted in 1972. In a few years' time a tormented Briton with begging bowl outside EEC headquarters, the bowl held out to an emerging Eurocrat, making for his Mercedes. Brief dialogue:

Britannia: "Yes, I'm on my uppers, but at least I keep my precious sovereignty, my virgility."

Eurocrat: "As a matter of fact, madam, we didn't really plan to deflower you, but here's 10 francs, and the best of British luck."

### Trans-script

But now that's over, and I'm glad, as the attractive student said to her tutor, a cunning assessment addict, who told her that in his book and in her case, assessment included performance between the sheets. The student, wonderfully innocent—asked whether the external examiner would be assessing her in the round, so to speak. Apocryphal, of course, because academics are selfless, always act from disinterested motives, free from the Old Adam in all its forms. Think on these things.

Not that one enjoys marking scripts—God knows, it's the worst chore of the year. There they are in a pile before me, mute and mostly illegible. I know before I start that a tiny minority will be written in a firm, round, clear script, the remainder a jumble of styles: Backward Precipitous; Forward Inebriate; Grabbed Inebriate; Baroque Curlicued.

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## Blindfold pretence of bureaucracy



DAVID MARTIN

Five years now I have been a committed man. Soon I shall discharge that duty and return to my own proper profession: scholarship, and the meeting of minds. But I have not wanted my time. My duty has been my advantage. Even a prisoner of bureaucratic rationality can observe the times and seasons.

I observe first that what I now propose to do is not done. An lyric scrutiny of our own activity

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### Wrong racket

Back, then, to the Scriptum and preppers for the slog. About 30 scripts are absolute maximum before needing a turn around the room, or better, around the garden when at home. Necessary, in order to escape from the tedium of so many candidates answering the one question that maximizes the vagueness, quiet and allows the sweeping generalization. In the garden, observe that the apple trees need spraying—white fungus, recent dry spell. Honeyuckle now giving off pungent aroma. Confuse more interesting questions for examinations in divers fields of learning.

Q1. "Illions towers are truly topless." Does the quotation derive from Milton or from the entrance passage to a Sogo nightclub? Locate the passage and comment on the sensibility displayed in drawing on your own reading in the particular area.

Q2. "Whereof one cannot speak thereof must be silent" (Wittgenstein, *Tractatus*). So why didn't Wittgenstein belt up?

Q3. (Logic Paper.) Should Question 3 be re-phrased less ambiguously? Write short notes on two of the following in the Italian style: Bilbo, Dildo, Dado, Dada, Daddy.

Back to the scripts. I am in the wrong racket.

"Mon dieu, mon dieu, la vie est la, simple et tranquille."

### On defensive

General Board of Faculties, 2.30 p.m. Student representatives keeping up with a wider scope. The bureau-cratic terms of reference mark the edge of their world and so they act confidently and effectively within it. Indeed, they can be real persons within it because all of reality lies inside those terms of reference.

Every frame imposed on the real reads an appropriate speech. Bureaucratic speech is roundabout and uncommitted. The "I" hides behind the "one"; clear and distinct ideas about the world are rephrased as "impressions". "I know" becomes "one has the impression". "I remember" is converted to "my understanding was". The imperative "indicative and personal" become the impersonal and subjunctive. Bureaucratic proceeds in the subjunctive mood and multiplies qualifying clauses. Direct speech is forbidden; bureaucratic speakers must by indirectness find directions out.

They gross things so to speak, by and large, and yet it is in the broadest possible terms. They operate in a world of perhaps and conceivably, may be and might be, would it not and could it not. Adverse judgments rot behind a mask of "with all due respect" and "that may well be so but". Ignorance is clothed in the desire for a little clarification. "I don't know" for equally "I very much suspect" becomes "I am not quite

sure". To see bureaucratic language as a restricted code cutting off half the reverberations and responses of human action and social probability, amounts to a serious disability. At best you can only use the code as a spirit of parody, whereas those who accept it as the



Wedged—or Wedgled.

tees on the defensive. Never let them be seen to out of a belief in the students' best interests—always reacting to your proposals. Never lose the initiative. Remember the golden rule—when it comes to standing on principle, anywhere, any time, don't always find it expedient to drop the principle just for this particular occasion. Forward with the revolution.

Hence the endless requests/demands. Last term nurseries for married students who could not wait to give the nation the benefit of superior genetic endowment. Hence duty of the state to take care of progeny. This term's issue: resident team of psychiatrists and GPs needed to minister to students suffering severe trauma of reading books, putting out the milk bottles, using public transport, trains at reduced fares, working a 30-week year on higher pay than old age pensioners' subsistence for 52 weeks, pro rata (work it out). Next year's number one NUS issue—British Airways to provide free vacation flights to Greece, Rome, America, for all students, to enrich the curriculum. In dangerous—NUS mandated to start negotiations now.

Did I say "Wedged"? Yes, if Herold is looking for a re-shuffle and Wedgled says it's education or nothing (firm up the youth vote: stitch it out to the workers). Besides, Herold is in danger—NUS already speaking for moderates. And when the staff-student ratio is 25:1, and no research whatever is being done in the nation's higher vocational sector, Herold will bring out his prepared text, nicely timed

Jam tomorrow  
Arbitration—pay award. Jam tomorrow, soon after economy collapses entirely.

as to the manner born. They are never crippled by inward laughter at themselves and others. They do not and cannot exchange glances based on more private meanings. The imperative "indicative and personal" become the impersonal and subjunctive. Bureaucratic proceeds in the subjunctive mood and multiplies qualifying clauses. Direct speech is forbidden; bureaucratic speakers must by indirectness find directions out.

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for, say, late June when the universities have dispersed for summer and dissent is frustrated. Extracts:

"I want to be frank about these new measures with every university teacher in the country. We British are always at our best when we have our backs to the wall, and whilst I realize the measures of the past 18 months have been very severe and unpopular—but I've never been one to seek cheap popularity just for its own sake. Whilst, as I say, I know these measures are severe, really severe—and I've never still they wouldn't be (since this is my first speech on the subject)—what I do know is that every university teacher in the country will accept them in the proper spirit, because they want to do their bit for the nation just like the rest of us, put their shoulders to the wheel and all the rest of it."

### On the air

Monday: Parliament broadcast for the first time in history. Question time, House of Commons, 2.30 p.m. Radio 4. BBC audience ratings estimates 2,107 housewives, mostly upstairs with the mop, not near enough to switch off plus 650 dogs, 47 parrots, 38 budgerigars.

Question to the Prime Minister, the Rt Hon Harold Wilson. "To what the Prime Minister if he has sold his cottage in the Isles of Scilly, and if not, whether it is socialism to have a house in Lorient North Street, a country house in Bedfordshire, a stately home at Churtwell, and a large empty house above the office in Downing Street?"

Prime Minister: "I'm glad the Honourable Member asked the question. This Government has always said—and I want this on the record—that second homes are a disservice to any civilized country. We have never said anything at any time—and I invite the Honourable Member to examine the record about this—fourth, or fifth homes. What I do say—and let's be honest about this—is that if the social contract exists, then a Government doesn't need to prowl the need for one; but that if it doesn't, no amount of preaching will bring it about, since the Government has already lost the consent of the governed. What was it John Locke said—I think it's around page 74, second paragraph if I'm not mistaken—you could look it up—I may be wrong."

### Major surgery

Down we go, then. We will be told the ghastly truth before the end of the year. Mr Hesley is already testing the scalp for numbness, and Mr Crossland has been preparing the patient for major surgery. October at the latest. Meantime, have a good vet...

Ossian

## News in brief

### John Arden gets Leicester post

John Arden has been elected to the Arts Council following his creative writing of Leicester University for 1975/76. Mr Arden, who first became well known when he plays *Live Like Piss* and *Sergeant Musgrave's Dance* were produced at the Royal Court Theatre in 1958/59, recently completed and presented a cycle of plays of the life of John Connolly. At Leicester he will work both with members of the university and with the city's Haymarket and Phoenix Theatres.

### Industrial studies BSc

The Council for National Academic Awards has approved a new BSc course in industrial studies at Sheffield Polytechnic which will enable students to study science, technology and business studies in an integrated manner.

### Spanish option

A new option in Spanish has recently been approved by the Council for National Academic Awards for the humanities baccalaureate degree course at Wolverhampton Polytechnic. The course already offers English, French, geography, German and history, of which students take two. A feature of the course is its concentration on twentieth-century literature.

### DES appointment

Dr A. Thompson has been appointed Deputy Secretary for Education and Science with responsibility for science effective on September 1. He will take over the £14,000-a-year post from Mr P. R. Odgers, who is retiring on August 31.

Mr Thompson, 54, currently an Under Secretary in the Department of the Civil Service in 1946 and has since served in the DES, including a period with the University Grants Committee. He has been in charge of the Department of Science Branch since 1971. He was educated at Cuddesley Grammar School and read classics and philosophy at Queen's College, Oxford.

### Spark of unity

The University of Birmingham has been approved to the provision of a joint honours course in electronic engineering and physics, to be provided jointly by the relevant departments. It is hoped that the first students will be accepted in October 1976, and that the course will provide students with a better view of the interlocking relationship

## Crowther-Hunt statement 'just like student agitators'

Lord Crowther-Hunt, Minister of State for higher education, was attacked this week by Black Paper writers for making statements reminiscent of student agitators.

The National Council for Educational Standards is concerned that the Minister's preoccupation with "relevance" and manpower planning could lead to the end of academic freedom.

A statement said "A reassessment of the numbers and courses in higher education is long overdue, but a reassessment made by the present education Ministers could be very dangerous. It is vital that those who believe in standards of excellence now make their views felt in this new debate. Standards in higher education must not be destroyed or have standards in school education."

Dr Rhodes Boyson, Conservative MP for Brent North, and chairman of the council, said "Just as students demand relevant courses on South Africa, Anti-Apartheid, and the American military machine, the Minister is demanding that universities and polytechnics are turned over to dental and medical schools or productive courses, ignoring pure science and Latin, Greek and the classics. This action is a threat to academic freedom."

The National Council for Educational Standards will hold a conference in London on September 14 to discuss higher education. It will examine the cost effectiveness of universities and polytechnics and the future institutions of higher education, including the cases for a comprehensive university, specialist institutions and universities and polytechnics.

The visit was requested by the CNAA after a critical report, one of its visiting parties in 1973. At the time the report said that members were dismayed at how little progress had been made to integrate the polytechnic and were critical of the unwieldy nature of the academic board and lack of library provision and computer facilities.

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## Physics may disappear from school, lecturer warns

Social and political pressures could lead to the disappearance of physics from the school curriculum, end of "honours standard" physics from all but the postgraduate schools of a few universities, according to Mr R. Schofield, a senior lecturer in the Department of education at Brunel University.

Writing in the current issue of *Physics Bulletin*, Mr Schofield says that two major threats to traditional physics are the non-comprehensive nature of many comprehensive schools, and the sociologists of education who argue that the present curriculum of British schools imposes a class structure on society.

Many areas of the country the schools closed, the comprehensive are short of their quota of able pupils, and in very many more they are short of the very bright pupils, Mr Schofield says.

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The Government has informally approved the building of a new radio and television broadcasting centre at Winton Hall, the Open University's campus.

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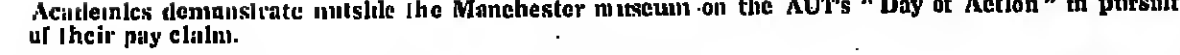
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Manchester University is in better shape than many other British universities. It has a magnificent endowment, half as yet undiluted in quality by the post-Robbins expansion. Jack Dinnium, professor of mechanical engineering at Manchester since 1953, a member of the University Grants Committee from 1965-73, and Manchester's pro-vice-chancellor, said of his younger colleagues: "They are as generous as my ever-bean and better; they work jolly hard."

Furthermore, the university had the foresight to freeze academic posts a year before everybody else, and the effectiveness of its "Save University Energy" campaign, symbolized by hasty Sue, flies expression in buildings unlit and unheated when outside temperatures are close to zero.

But there is still a sense that the fabric of scholarship to Britain's largest, pre-Robbins university is under attack. Departments were this week preparing their preliminary submissions for the 1977-82 quinquennial in a state of uncertainty and foreboding. Professor Frank Musgrove, head of the education department, said there was a "memento of uncertainty—the university felt threatened by the intrusion of state money" by Lord Croomer-Hunt, Minister of State, overseeing higher education, and Sir Frederick Dainton, chairman of the University Grants Committee.

Departments have been asked to prepare their quinquennial plans within the reduced target of 10,700 student places expected at the end of next year. They have been asked

fears for the safety of past achievement in the shape of his valuable book stocks, and for the future of scholarship as well: "I wonder what is to become of academic publishing in the present economic climate."

It is the condition of pre-war scholarship which casts most gloom in the university, however. Professor Peter Worsley, dean of sociology, pointed to a new feeling of tension in his department caused by an increasing competition for study leave, postgraduate students, and university research money. He said that people worked harder to overcome the shortfall in resources, but became more prickly as a result. An elaborate quantifying exercise was already in progress in his department to ensure that no lecturer was expected to take on full-time teaching load at the expense of research.

What really hurts, however, is the feeling that research and scholarship is no longer valued by the Government. Whitehall or the public.

What the Government says about the universities is simply untrustworthy.

The feeling of distrust is associated particularly with Mr Penrice—at least among the younger academics—and to a lesser extent with Lord Croomer-Hunt. In the Medical School, Mrs Barbara Castle is so much a folk-devil to the medical staff as Mr Tony Benn is to British industry. What confidence can you have in people who play a double-faced game? "One senior medical administrator asked scornfully.

proffer Manchester to any other teaching institution?

Salaries were, and even after the arbitration award are, the main issue. Pay was seen as the stick the Government had chosen to bring the universities to heel, and the united senior and junior academic in a common campaign. Action to withhold examination results had already started in Professor Dainton's department, and the arbitration result was announced, but although he was adamantly opposed to militancy, he is ignoring it. He thought the pay situation, especially for younger lecturers, was "absolutely scandalous". Professor D. H. Valentine, head of the botany department, in common with most Manchester professors, was against withholding examination results, but he clearly understood the weight of feeling behind the AUT decision.

There is widespread suspicion of the involvement of universities with government, although the UGC and Sir Frederick Dainton in particular are seen as reliable brokers. Professor Dismod, in eight years a UGC member, said:

I should have to be on it now. I must be extremely difficult job. It must be difficult for them to know where there are and whether they retain credibility in the universities."

But on criticisms that the UGC was becoming an arm of government, he noted that it was a sure sign the UGC was doing the right job if it was being criticized both by universities and by the Government.

Many at Manchester are chafing

فلا من الله

## Europe still puts national interests first

**Alan Cane**

# Degrees without tears for the status seekers

In the United Kingdom the situation was relatively stable until the outbreak of the Second World War in 1939 according to a British Council report at that time there were at least five people awarded unrecognized degrees. These included Henry Chellieu; Charles Boltwood; William Chisholm; and John "Sir" Sidney Lawrence (now "the Baroness de Neullay or Nevill") and "Dr" Bruce Coppen. Mr Chellieu, London, operates from a St. Michael's College House which is a few miles from the comfortable North London home. When a THES investigator wrote to him from the United States for a brochure earlier this year, he added to the brochure a circular letter offering a £1000 annual stipend and a \$30-membership of the unrecognized "British Institute of Advisory Councils."

The Robbins report duly advocated legislation: "We therefore wish to call attention to the anomalous state of the present law, under which, as is shown in Appendix Four, there is or present in Britain virtually nothing to restrain unauthorized associations or persons who

the country house of Bruce Carson (James H. H. Carson)

The country home of Bruce Conner (see p. 51) is a gem.



[illegible]



## Universities cash in on Iranian connexion

NEW YORK Iron and other oil-rich countries of the Middle East are beginning to bestow substantial grants on American educational institutions with prestigious technological facilities in return for cooperative—and sometimes irregular—arrangements.

The grants, which range from \$100,000 to several million dollars, are given for a variety of ventures, including "faculty exchange" programmes, special programmes for Middle Eastern students in this country, and—in Iran—the planning of vast complexes in which well-known American institutions will lend their names.

Large American universities, facing unimpressive economic prospects, are sending their most effective fund-raising efforts to the Middle East for lengthy stays and "exploratory conversations" with high officials, many of whom hold American degrees.

Like most Middle Eastern officials, anxious to increase as quickly as possible the technological capabilities of their countries, are looking for the kinds of Ivy League and other renowned institutions. It is difficult to ascertain how wide an influence petrodollars are having on the American educational establishment. Some institutions, fearing adverse political reactions, make no announcement of these new grants. Others refuse to name the amount of the grant or discuss the details of the programme for which it is given.

One indicator, however, is the dramatic increase in American students from the Middle East.

According to the estimates of the American Friends of the Middle East, the total Arab student population here went from 8,800 in 1974 to 12,000 in 1975—an increase of 36 per cent in one year.

In the same period, the number of Iranian students went from 1,550 to 13,500. Many of these students are here because of special arrangements between their governments and the institutions they attend. Iran, which sends more students than all the Arab countries combined, is also by far the greatest Middle Eastern benefactor of American education.

Georgetown University in Washington, DC, for example, has been awarded \$1.1m for a five-year cooperative arrangement with Fer-



Iran: ancient and modern.

dowsi University in Iran. Georgetown's responsibilities have yet to be spelled out in detail but will include mutual exchange of students and faculty, the education and re-training of Fardowsi faculty members, technical and continuing assistance toward the creation of a post-doctoral science programme at Fardowsi, and the persuading of qualified Iranians to return to Iran to teach.

Georgetown, noted for its linguistic department, offered to design a literacy programme for Iran, where only three people in 10 can read, but Fardowsi was not interested. Like many of the Iranian-American programmes, the Fardowsi-Georgetown arrangement is open to the frequently heard criticism that such programmes are intended to provide opportunities for Iran's upper class, while leaving the peasantry untouched and without attempting to create the broad middle class essential to technological society.

A special project of the Shah of Iran is the establishment of a new university, to be named after the Shah's father and built near his birthplace on the shore of the Caspian Sea. Raza Shah Kabir University is to be a small, post-graduate institution. English will be the official language, and at least half the university will be devoted to the pure sciences.

Harvard University has been given \$400,000 to do a preliminary study on the possibilities for such an institution. There are no specific guidelines for the study, but according to Richard Leach, associate dean of arts and sciences, the \$400,000 is only for "cost reimbursement" for travel and miscellaneous expenses, and Harvard must "return anything unspent".

The government of Iraq has established new chairs in the engineering departments of several major American universities. For instance, \$1m was given last August to the University of Southern California for a professorship in "petroleum engineering". USC is seeking more Iranian

grants. Another grant of \$1m has been given to Georgia Washington University to establish a chair in "multi-national management".

The arrangement between George Washington University and Iran are mysterious. In addition to the chair, GWU concluded two agreements with Iran last June, one involving the creation of a "post-graduate university" and the other with the "Iranian military". The programme for the military is to be called the Special Programme in Computer Science for Iranian Students. Its director, David Gilford, said he was newly appointed and could therefore not provide details. According to James Thayer, assistant dean of the School of Engineering and Applied Sciences, the programme will take each student up to three years to complete and will include computer science, English and Computer science at the master's level.

Students are not selected by GWU but presented by the Iranian military with GWU retaining the right to veto an individual student as below GWU's standards. Students are chosen by the military on the basis of their academic qualifications and their "security clearance".

They will be housed in accordance with the specifications of the Iranian military, not with other GWU students but in special "private" quarters. Forty-three students have already arrived, and about 10 more are expected.

Harold Liebowitz, dean of the School of Engineering and Applied Sciences, refused to release any more information about the programme, saying that its cost and nature are "between us and the Iranians".

The most controversial programme thus far is at the Massachusetts Institute of Technology. The Iranian government is giving MIT \$1.4m to train 54 graduate students, to be "nominated" by Iran, in nuclear engineering over the next two years. MIT students staged demonstrations recently, and held a referendum in which they voted 1,001 to 214 against the programme.

## Graduate job openings fall still farther

from Frances Hill

NEW YORK Employers estimate that they will take on 18 per cent fewer college graduates this year than last year, according to a report from the College Placement Council. In November employers were indicating that there might be a 4 per cent drop in the new employment of college graduates.

This decrease is the first general overall decline in the hiring of graduates since 1970-71, when there was a 27 per cent fall.

Last autumn it was expected that the downward trend in recruiting would be tempered by the demand for engineers and the strong position of the petroleum industry, the report says. But neither of these expectations has materialized. At oil degree levels, openings for engineers dropped 20 per cent, while the petroleum industry showed only a 4 per cent increase over last year in graduate employment. In contrast to the 33 per cent increase anticipated last autumn, the engineering decrease followed three successive years of increases: 7 per cent in 1971-72, 32 per cent in 1972-73 and 14 per cent in 1973-74.

By degree level the largest drop is likely to be experienced at the doctoral level—20 per cent. The decline at bachelor's level is estimated at 18 per cent and at master's level at 17 per cent.

No categories of employment have escaped the decline. The least affected graduate areas are the sciences, maths and other technical subjects at the bachelor's level, which are down 7 per cent, and engineering at the doctoral level, which is down 10 per cent. Business administration at the master's level is down 11 per cent. Business at the bachelor's level has dropped 28 per cent.

Recruitment in the humanities and social sciences dropped 9 per cent. But prospects for graduates in these fields are not better than for those in the sciences and engineering, as this year's drop follows a decline of 45 per cent in 1970-71 and no improvement in the intervening years.

Of recruitment in the humanities and social sciences 36 per cent was by the federal government, which draws on a pool including recent as well as new graduates.

The only types of employers which showed an increase in recruitment of graduates, besides the petroleum industry, were local and state government agencies—up 18 per cent—and non-profit and educational institutions (for non-teaching positions)—up 7 per cent. But the amount of hiring in both these categories is low.

Normally "stable" employers such as public accounting firms, the metals, chemical and drugs industries, all of which had outperformed increased hiring this year, were part of the downward trend. Public accounting dropped only 5 per cent, but chemicals/drugs and metals declined 21 per cent and 24 per cent respectively. The largest decreases are estimated for the building materials and construction industry and for automotive and mechanical equipment firms, both down 60 per cent.

Employers do not expect appreciable improvement in hiring until at least next spring, the report says. Many employers said that there is little necessity to do much recruiting of new graduates because of the available supply of experienced individuals and recent graduates coupled with reduced turnover and internal re-allocation of personnel.

## Washington underspending hits 100,000 poor students

from Angela Stent

CAMBRIDGE, MASS As the current academic year draws to a close, it has been announced that the federal government has left unspent one quarter of the \$335m scholarship money it gives to poor students who want to attend college. At least 100,000 more students could have had financial aid this year if the money had been properly administered.

Congressional critics monitoring the Basic Education Opportunity Grant programme contend that bureaucratic ineptness has resulted in a second year of millions of unspent dollars.

During this past academic year, which was the first time that this scholarship money had been made available under Title IV of the Higher Education Act, only \$60m was spent for 600,000 students, instead of the \$122m appropriated to the fund.

The Basic Education Opportunity Grant programme provides students from families with an income of under \$12,000 a year with scholarships of up to \$1,000. The size of the scholarship is dependent on family income and the student's academic achievement. The minimum level of the grant is \$50.

One administrator of the fund said that the formula under which the money is spent is so complicated that it has proved impossible to tell how many students are applying, how much money each will be entitled to, and how many of those qualified are enrolling.

He said that 15 per cent of the students who send in applications are approved to receive their money. But because of the way in which the formula for the grant is set up, the applicants do not collect their money until after the full amount authorized by Congress.

Brazil

## Standards tumble as numbers keep rising

from Patrick Knight

RIO DE JANEIRO The massive growth in secondary schooling during the past few years has forced a rapid expansion of higher education, but in a rather curious way. In 1964 there were 134,000 undergraduates, now there are more than a million, and the extra numbers have been overwhelmingly absorbed by a recently created private sector, where 80 per cent of students now study.

Nobody knows exactly how many private facilities now exist, but 600 is a recent estimate. Most offer a limited number of courses, generally in philosophy, law or the arts. They vary enormously in standard, but the majority are run purely as profit-making businesses. The only requirements are for a high school diploma, a first degree, or a professional qualification, and for there to be a library. There is no control of course content or examinations, and the minimum standards are frequently not observed.

Mr Ney Braga, Education Minister in power since March 1974, plans to tighten controls in an attempt to improve standards. He has no intention of swinging back the balance in favour of the state colleges, however, and expects that the private sector will continue to teach the majority of students. Staff at the universities, one in each state and others such as the superbly endowed University of Sao Paulo, lament that standards of undergraduates have fallen alarmingly as a result of the increase in numbers at secondary schools.

University faculties have in general more than doubled their intake since the 1971 reforms, without facilities being expanded and with the staff but the number of able students has fallen markedly because of inadequate preparation.

The admission system also needs modifying. Because of the large numbers of applicants for each vacancy, frequently 20, sometimes 100, easily computerized multiple choice tests are now used. It has recently come to be felt that these do not measure ability properly, and plans are being worked out at Sao Paulo University to change to an examination system based on secondary school work.

At present the tests are specifically aimed at the course being applied for, frequently involving a synopsis of the course material. The method is considered to contribute to the high drop-out and failure rates, around 50 per cent in many faculties. It is not now possible to admit people on the basis of their matriculation, as it has become policy to pass 75-80 per cent of school leavers.

An encouraging sign has been the increasing number of students applying for science and technology courses at the expense of the arts and social sciences. A few years ago it was the ambition of every father for his son to study law, but as a society still without traditions

it has proved relatively easy to change people's status values. Brazil. There are 2,500 applicants for this year's 300 places at the Sao Paulo faculty of physics, for example.

This trend has not yet extended to the advanced level, in which a middle level technician is as important as to be a professional scientist, probably because the gap in salary between them is still so great. As soon as the average student becomes qualified as a technician, he invariably tries to enroll for a university course.

In view of falling standards, emphasis has frequently been on encouraging the better graduates to continue to follow taught post-graduate courses, usually taking two years. There are now some 645 post-graduate courses offered throughout Brazil, almost 200 in Sao Paulo alone. Demand is also growing for people with doctorates and masters' degrees, in particular at the universities and the various research institutes run by the ministries.

There are certain areas, notably tropical medicine, agriculture and the technology of certain minerals, in which the state colleges have an emphasis. Brazil sees itself as the first major tropical civilization to develop, with all the responsibilities and challenges that this involves. With plans to substantially increase agricultural production, a fundamental of the 1975-79 National Development Plan, stress will also be put on agronomy and on research into crop and stock improvement. As Amazonia is opened up, and people move into the area, problems of tropical medicine will become more acute. At the moment only 60 per cent of the country is covered by the Ministry of Health.

Major importance are the efforts being made in industrial training by the National Service for Apprenticeship Training, SENAI. Financed by a 1 per cent payroll levy for medium and large scale enterprises, SENAI has expanded enormously in recent years, having moved in particular to adult education, where short courses are available; 103,000 students took courses in 1973, as many as in the first 25 years of SENAI's existence, from 1942 until 1967. In the early years, however, the great majority were three to four year full-time or sandwich courses, so perhaps the comparison is unfair.

SENAI enjoys a very close relationship with industry, whose representatives are consulted during planning for new courses and machinery. Only 85 per cent of the funds are returned directly to the state of origin, the remainder is distributed to the more backward areas of the country, such as the north east. This is one of the ways by which Sao Paulo and the south can pay their debt to parts of the country from which they have drawn human and material resources.

France

## Big changes ahead—but softly, softly

from George Morgan

PARIS There is to be no reforme of French higher education. The Minister of Education, Pierre Soisson, Secretary of State for Universities, shortly after coming to office in June last year will not make place: anxious to avoid a political storm of the kind which has beset the plans of Mr René Haby, Education Minister, for modernizing compulsory education, M. Soisson has decided against submitting a bill for parliamentary scrutiny.

The decision, however, implies a change of strategy rather than of long-term objectives. M. Soisson remains committed to reform, but he has decided to implement policy by decrees and ministerial orders. This means that he will be able to introduce significant changes within the general framework of the 1968 Act without avoiding the dangers inherent in a national debate.

A number of the measures envisaged are closely tied to the proposed reform of secondary education. This is the case in particular with his plans for university admission. The baccalaureate will take place a year earlier than at present and will be a university specialization and to the drawing of "academic profiles" intended to show prospective students major fields of interest and ability. M. Soisson has now dropped the idea, however, of selective admissions policy. The universities will not be empowered, as originally planned, to decide their own entrance requirements. Selection, the Minister told me, was economically, socially and politically undesirable.

There are still hopes of avoiding the massive selection by failure which results in the students in French universities leaving with no qualifications. More emphasis is to be given to informing students and lycées of the prospects open to them at university and beyond in an attempt to direct them into the field in which they are best suited. At present, 53 of France's 73 universities are equipped with orientation and information bureaux run jointly by academic staff and full-time academic advisors. Next year, M. Soisson intends to extend the scheme to the remaining campuses and to widen their zone of influence to take in the secondary schools.

Another feature of university entrance which will come in for ministerial attention shortly is the opening up of higher education to non-bacheliers, mature students who do not possess the required minimum qualifications. An official report out this month recommends easier access to universities and grandes écoles for non-bacheliers who have at least three years' professional experience behind them. It also urges the replacement of the existing university entrance exam by a number of aptitude tests and interviews.

Future generations of students in higher education will discover a completely renovated pattern of university diplomas. Bague by the former Minister, M. Joseph Fontanet, the new system involves a pyramid of structure with three two-year courses.

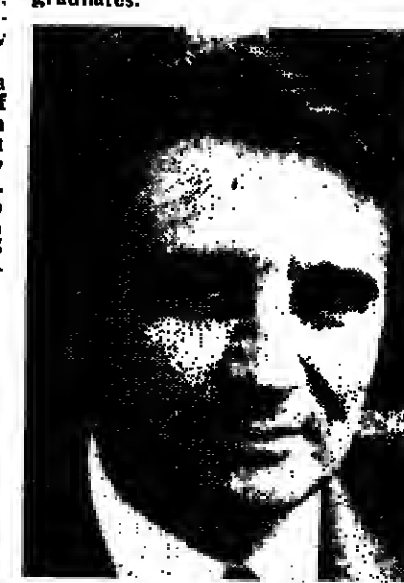
Despite earlier doubts, the reform of the first cycle leading up to the controversial DEUG, or general studies degree, is to stay. This degree that plans for a two-year licence course have now been shelved.

The reform of the third cycle announced last year is to become operational in October this year. In future, doctoral students will be required to pass a one-year diploma called the *diplôme d'études approfondies* before being allowed to move on to the three-year maximum. It also to be placed on research.

The pattern was completed last month with the publication of details concerning the second cycle. From October this year, the licence, a non-degree year course, will be replaced by the *licence*, a three-year maximum. It will be published in a test year. The licence has been in existence since 1967 but it has never enjoyed the prestige of the licence which benefited from being the traditional qualification for recruitment into the civil service and other

Jobs. The licence will remain for several years as a transitional measure.

Ministerial policy will in future demand a much closer coordination of university level between universities and business and industrial interests. Before being authorized to offer *maîtrise* courses, university departments are being required to submit details of the projected course and to submit a list of possible career openings for future graduates.



M. Soisson: trailing carefully

Another area which will be receiving M. Soisson's attention in the coming months concerns student involvement in the administration of the university. First introduced in the wake of 1968, "participation" has declined steadily over the past five years. The student poll at faculty elections dropped from 52 per cent in 1969 to only 25 per cent last year.

The 1974 orientation stipulates that a quorum of 60 per cent is needed before students can occupy all available seats. As this is seldom obtained, student representatives rarely achieve parity on faculty councils with members of the teaching and administrative staff.

The Secretary of State is now attempting to reverse the trend. This year, he called on university presidents to give wider publicity to the elections and to allow students every facility for voting. The result was a modest 1.5 per cent increase in the poll. M. Soisson has now suggested a national-wide single polling day on all campuses. At present, faculty elections are purely local events and are spread out over four months from December to March.

Another innovation is the setting up of a new student advisory body known as the Conference of Students' Associations. All student organizations, however small, at least 10—can be represented. They will meet once a month under the chairmanship of the Secretary of State to discuss topics of particular concern to students. According to the minister, the new body will stand on a par with the influential Conference of University Presidents.

On the agenda at the first meeting, scheduled for October, will be student grants, university entrance and the *grandes écoles*. M. Soisson told me he was thinking of changing the university calendar to a 36-month cycle divided into three equal periods. This contrasts with the present system of two semesters and a total of 25 teaching weeks.

A reform of this kind would involve a much heavier work-load for university staff. At the moment, senior lecturers teach a maximum of six hours a week and professorial staff three hours. To overcome the difficulty, M. Soisson has suggested a flexible formula combining teaching, research, and administrative duties in a way that would allow a maximum of 10 hours a week according to the work actually done by academic staff.

This and other changes are likely to be written into a global reform of university careers being planned by the minister along the lines laid down in the de Broque report published last year. The reform plans for the simplification and restructuring of the complex career pattern have been held up because of fierce opposition

Jamaica

## VC attacks late payers

from David Walker

KINGSTON, JAMAICA One of the most serious financial problems facing the University of the West Indies is the failure of the contributing governments to make their payments on time, says Mr A. Z. Prestina, vice-chancellor, in his annual report.

During the financial year 1972-73 the shortfall in contributions amounted to nearly £270,000 and last year the UWI had to ask its major paymasters, the governments of Jamaica, Trinidad and Barbados and the Bahamas, for an interest-free loan to tide it over, Mr Prestina said.

The deficit was caused largely by the shaky finances of some of the 10 smaller West Indian territories which send representatives to the grants committee that finances the university. Among these territories are the islands of Grenada, St Vincent, Dominica and the Windward and Leeward Islands.

Mr Prestina reported that the University Grants Committee had not acted on the proposal to float a loan for the UWI and this had forced the university to consider taking action against the recalcitrant territories.

Last year it was decided that although new students should be sent home the UWI was to emphasize to the smaller territories the urgency of the financial situation. Elsewhere in his report Mr Prestina dealt with other questions of money. The UWI was being "harassed" by representatives of the academic and other staffs for settlement of their claims. Mr Prestina said that unless money was made available for university salaries to be restored to their former purchasing power, staff were likely to leave.

Mr Prestina was pessimistic about the effects of "oil growth". "Council has had on more than one occasion to bear the burden of hearing from the university officers the near disastrous consequences which our present steady state situation has been having. It has been emphasized time and time again that the university cannot be expected to perform the role which is required of it and which is necessary in our developing community, unless the entire university staff and the administration are imbued with a sense of being involved in a developmental exercise involving vision and purpose."

Mr Prestina hinted that an absence of drive and energy in the university had been noticeable in recent years. He said: "If we do not move forward now, if we do not discover new knowledge, make new friends and so on, again in the spirit of enquiry, dedication and service which was so noticeable in our early years, confirm to our students that we are an institution of high quality and standards, that our staff are of the highest calibre and so inspire in them similarly high ideals and respect for knowledge and dedication to service, we cannot but fail."

The troubles at Nairobi University have now finally escalated beyond the authorities' level of toleration and the university has now been closed until further notice.

The current disturbances developed when long-standing disagreements among students on political tactics erupted into violence. Riot police were called in and a curfew imposed. Later, 54 students appeared in a Nairobi court charged with rioting after a proclamation had been passed—a charge which carries a maximum penalty of life imprisonment. All the students were refused bail and remained in custody until July 22.

This is the second time in a year that the University of Nairobi has been closed following student disturbances. In August, 1974, it shut down for four and a half months. When it reopened again it seemed to be running on a tightrope. The murder of the popular MP, Mr M. Karuri, which came to light at the beginning of March, resurrected

## Old boy schools boost budgets

CAMBRIDGE, MASS.

The current popularity of continuing education courses, plus the growing financial plight of many universities have combined to create a new and currently booming branch of higher education—the summer alumni college. These week-long sessions give alumni the opportunity to relive their halcyon college days, to combine a vacation with relatively untaxing courses, to renew their intellectual—and hopefully financial—ties to their alma mater.

The Washington-based Council for Advancement and Support of Education says that it has been besieged by requests for information on setting up alumni programmes this year, and a record number will be held this summer.

But the phenomenon is not new. Dartmouth College pioneered the alumni college in 1964, because, according to its former president, Mr John Sloan Dickey, "We felt at the time that alumni should have an opportunity for serious liberal studies. Their relationship to Dartmouth shouldn't be restricted to financial support or enthusiasm at football games."

Since the programme began, the

United States, and this summer private colleges such as Cornell, Stanford, Princeton, Harvard and Brown will hold several week-long sessions. Many public colleges have also begun such programmes, including the University of Indiana at Bloomington, Berkeley and the University of Michigan.

A typical alumni college session features lectures by top faculty members, on-site tours, and smaller discussion sessions. Dartmouth's programme this year is entitled "The Twentieth Century". Pomona College in California will also have a "Twentieth Century in American Drama" while Harvard will offer a more traditional course—Soviet politics in the twentieth century.

There are no tests or papers—indeed the requirements are minimal, since there is no evaluation process. There is a daily cocktail hour and various forms of entertainment in the evenings.

Since the alumni live in dormitories and eat cafeteria food, these study vacations are ideal for recession-conscious holiday-makers. Dartmouth charges \$345 for its 12-day alumni college, and Michigan \$105 for its week-long course. The low prices, and comparatively low prices contrast with more than \$1,000 summer refresher courses at business or medical schools, which

## 'Low fees an impossibility'

A policy of low tuition fees for students in the first two years of college would be almost impossible to implement, according to a report from the Carnegie Council on Policy Studies in Higher Education.

The policy was prepared by the Zook Committee in 1947 and has been supported by the Carnegie Commission on several occasions. It has recently received renewed interest in Congress and among educationists.

It is "improbable" that a national pattern of low or no tuition fees in the first two years of college could be achieved, through state action, the report says. In view of the trend toward rising tuition in public colleges and universities in many of the states, and the growing emphasis on scholarship programmes as a means of alleviating the effects of the rising tuition gap between public and private universities.

Low or No Tuition. An analytical report of the Carnegie Council on Policy Studies in Higher Education. Jossey-Bass Publishers: \$5.95.

During this past academic year, which was the first time that this scholarship money had been made available under Title IV of the Higher Education Act, only \$60m was spent for 600,000 students, instead of the \$122m appropriated to the fund.

It was perhaps a sign of these pressures that last month a conference on cheating and college honour codes was held at the University of Charlottesville in Virginia. American college honour codes assume mutual trust among the students involved, and expect them to refrain from cheating, lying or stealing and to report their fellow students if they violate the code.

The breakdown of the honour code has reached alarming proportions, and various scandals have come to light, which show how far some students are willing to delve into the criminal underworld to achieve good grades. For instance, a ring of enterprising students has begun to copy transcripts of the scholastic records of good students and is selling them to lesser students who then substitute their names and submit them to graduate schools.

As a result, the Law School Admissions Council now requires that

students who take the law board be fingerprinted, so that officials can detect impostors who take the test for others.

The worst single cheating case this year occurred at the University of Florida in Gainesville. About 200 students were involved in the theft and exchange of dozens of exam papers in the university's School of Business Administration.

An honour court has been investigating the scandal since January and its findings are expected to be made public. A department of students began the investigation and sold the tests at prices up to \$200 a piece. Some, as many as students had obtained copies of, were forced to.

As students continue to give up their files and go to any lengths to get grades which will assure them a place in professional and graduate schools, the honest and representative description of the emptiness of these

Canada

## Union calls for jobs to be offered to Canadians first

from Israel Cinnman

OTTAWA The governing council of the Canadian Association of University Teachers has approved a series of guidelines designed to encourage the hiring of Canadians over non-Canadians in universities.

The guidelines urge that faculty appointments should be offered to best qualified Canadian applicants unless there are strong corroborated reasons to believe that a non-Canadian has superior academic credentials.

They call for a creation of university-wide committees to review appointments with a mandate of ensuring that "an active effort is made to recruit Canadians".

These committees would be charged with investigating whether a department's decision to offer a position to a non-Canadian was justified. If a non-Canadian is to be appointed, the department wishing to make the appointment will be required to produce documented proof why a non-Canadian is being considered for the post.

But if a non-Canadian is appointed, he would automatically be given all rights and privileges

accorded to CAUT members, and his nationality ought not affect in any way, the terms and conditions of his employment, including academic freedom, salary, promotion and tenure.

The term "Canadian" as it appears in the guidelines was purposely left undefined. According to Professor David Braybrooke, CAUT incoming president and chairman of the CAUT Committee on Canadianization and the University, the vague wording is required because of human rights legislation in four provinces that prohibits discrimination against landed immigrants in hiring.

The latest Statistics Canada figures for the 1973-74 academic year show that almost 34 per cent of some 28,000 professors of Canadian universities were not Canadian citizens. Almost 15 per cent were American, 10 per cent were British and the rest came from various other countries.

Although CAUT guidelines lack formal legislative authority and are presented as recommendations, CAUT officials believe that their ratification will have considerable effect on university hiring policies.







## Needs and rewards

The Economics of Inequality  
by A. R. Atkinson  
Oxford University Press, Clarendon  
Press, £5.50 and £3.90  
ISBN 0 19 870243 and 8770766

The Economics of Inequality should be compulsory reading for all politicians as well as the first and second-year economists and sociologists to whom the author delivered the lectures from which this volume has grown. Indeed, the Royal Commission on the Distribution of Income and Wealth would have been saved considerable labour had they begun with last year.

Professor Atkinson is concerned with the contribution which economic analysis can make to "understanding the nature and causes of the differences between people in their income and wealth". Inevitably he deals with technical matters—the choice of definitions, the problems of measurement, the statistical limitations of available data—but the presentation is so clear and readable that the layman will find little difficulty in following the argument. The note at the end of chapter five on the presentation of statistics, for example, is an excellent example of Atkinson's pleasant didactic style. There is a welcome synthesis of existing data relating to the distribution of income and wealth in Britain, together with some international comparisons (primarily the United States) and at every stage a clear discussion of the economic theories advanced to explain the data. The reader is left in no doubt that social variables play an essential part in any such explanations, and that the economists' dispute reflects basic differences of values which effect the questions they ask, as well as the answers they offer.

Atkinson observes that distribution theory has had cycles of fashion, but that by and large it has been neglected compared to other aspects of economic theory. In his earlier publications he himself has done much to remedy this neglect, but he is perhaps also a welcome sign of a renewed interest among the general public that we now have another book addressed to the layman to put alongside Jan Pen's *Income Distribution* (Penguin 1971). Compared with that work, to which Atkinson gives generous acknowledgment, the present volume is less methodical, provides the reader with a clearer grasp of the technical problems across a rather wider area and is more dispassionate in its presentation. Whether or not the latter is regarded as a virtue is a matter for debate, but it does not affect the readability. The book avoids the pitfalls of many surveys which become merely a catalogue of issues or theories, and manages to cover the essentials in such a way that the reader can grasp at least the significance of the debate.

It is impossible to discuss economic inequality without becoming involved with questions of values, yet much post-war work in Britain has been concerned with explanation rather than with defending an ideological position by appeal to what the statistics show, or even worse, when they would show it only too clearly. Given that both income and wealth statistics in this country are inadequate for either description or explanation the debate has been rather like a tennis match in which the server first delivers in action the statistics show a long trend toward greater equality in the distribution of income (or wealth). On the one hand, however, a well-pleated return wins a point for the receiver; the statistics show no such thing. If you look not at the extremes of the distribution but at the middle there has been a remarkable stability since the Second World War: and in any case the Inland Revenue data underestimate investment income, etc. Such exchanges can easily lead to the feeling that nothing can be said about income or wealth distribution. Atkinson, however, attacks such fatalism. He quotes, with approval, A. K. Sen's warning about "the danger of falling prey to a kind of nihilism that

characterizes much of normative economics. . . . This takes the form of noting quite legitimately, a difficulty of some sort, and then constructing from it a picture of total disaster".

Take, for example, the statistics on the distribution of wealth. The official estimates prepared by Inland Revenue since 1959, by the so-called estate duty method, have been criticized on six counts: they are incomplete, since, by and large, they exclude people below the estate duty exemption level; the method of estimation of aggregates from the sample of estates belonging to people dying in a particular year is open to the application of "mortality multipliers" is subject to error; wealth, as declared for estate duty purposes, may be understated; there are alternative bases for the valuation of wealth; there are different views about what should be included in the definition of wealth—should rights to occupational or state pensions be attributed to individuals, for example; the Inland Revenue distribution describes the wealth of individuals, not of married couples or of families, which might be a more realistic unit for analysis. But holding the millstone trap, Atkinson provides a variety of alternative measures of the concentration of wealth-holding in Britain, adjusting for the likely effect of the problems listed above. This is extremely useful because although there will be general agreement that certain objective deficiencies in the statistics due to tax avoidance or the omission of people with wealth should be corrected, there will be less agreement about some of the other issues.

Alternative ways of defining wealth have different social meanings. The fascinating point is that Atkinson's adjustments produce a relatively narrow range of estimates of the wealth holdings of the top 1 per cent in Great Britain in 1969. The Inland Revenue unadjusted estimates showed the top 1 per cent of wealth holders owning 24.2 per cent of wealth in that year. Adjusted for missing people and wealth, and including state pension rights, it falls to 20.0 per cent. Estimates of the ownership of the top 5 per cent, with similar adjustments, range between 37 per cent (with state pension rights included) to 57.9 per cent (without allowing for missing wealth or including state pension rights) but, in the latter case, the adjustments on the individual level at the extreme end of the wealthiest families are calculated with the wealthiest males. This is not playing statistical games, for each estimate in itself adds to our understanding of the significance of the capital needed to live in comfort, or the ability to place expenditure over time, than the definition of wealth which confines itself to marketable assets in the most appropriate sense. The value of state pension rights is meaningless. But even on the most inclusive definition, the concentration of wealth in this country is considerable.

My criticisms of the book turn mainly on questions of emphasis and omission. To his discussion of the limitations of means-tested benefits, Atkinson does not draw on the experience of other countries, where means-tested benefits does not, for historical reasons, carry a stigma. The bargaining power of trade unions, and the different attitudes and ways in which it is exercised, is dealt with in a single paragraph. There is only a brief reference to the dispersion of income and wealth in Eastern European countries. The problems of maintaining reliable data in this area are considerable, but in a general book concerned with causes of inequality these countries are of particular interest because their social systems are so different from those of either the industrialized countries of Europe and North America, or the industrializing countries discussed in chapter 12.

Most surprising of all in the omission of a systematic discussion of the relationship between economic inequality and productivity. Because of the existence of a "functional" and "social" left in the

Labour Government and in the face of rapid inflation, some wealthy people today feel themselves threatened. Whether this is a real threat or not, they seek a forum in which they can advance the argument that income differentials must be maintained and widened in order to provide incentives for the creation of wealth and to retain people with scarce, but valuable, abilities in this country, against the pull of emigration. They also argue that the private accumulation of wealth is essential to encourage productive investment. It is possible to extract from Atkinson's discussion in chapters five and six (where he surveys the relationship of the distribution of earnings to personal characteristics) and the operation of the labour market) a view that existing income differentials between a top manager and a labourer, may be affected more by custom and accepted values, or by the formal structure of large organizations, than by market forces of supply and demand. But it would have been interesting to have a confrontation with, for example, the question what would be the economic effect of limiting earnings differentials in a country like Britain to, say, 5:1? Or what, if any, are the connections between the concentration of wealth—where Atkinson concludes that roughly one third of the top wealth-holders (the top 0.1 per cent with wealth in excess of £125,000 in 1968) were self-made men and two-thirds were there by inheritance—and the level of productive investment?

Atkinson argues that the degree of inequality cannot, in general, be measured without introducing social judgments. It is perhaps surprising in the context that he does not refer to Sen's view that there is no clear distinction between positive measures, which make no use of any concepts of social welfare and those which do, and his suggestion that, perhaps the most useful measure is one which makes both. But in his own suggestion, the measure is not equally distributed inequality—the measure Atkinson introduces—rather, it is a measure of the weight attached by society to inequality in the distribution. At present we have no way of arriving at any numerical value for this concept, but the issue of what constitutes a fair distribution of income and wealth is likely to appear even more central to the political agenda in the future. The present difficulties, when every social group, from top managers to railwaymen, from university teachers to pre-diggers, pursue their own claims for a share of the national income, and the absence of a consensus about the acceptable level of inequality, or differences in income, are striking examples of the differences appear great and lacking in rationale.

Some years ago John Goldberger was arguing the need for a clearer moral basis for the structure of economic differentials. This would argue for a distinction between the argument from "need", and the argument from "desert". The argument from need accepts that some people need more than others for a variety of reasons—larger families, handicaps which require more resources if the individual is to lead a normal life. As Atkinson hints, a close examination of some of these questions might call them into question. One might ask why should the retired or unemployed have a lower standard of living than the working population—do they need less? The argument from desert says that some people work harder to contribute to society and should be duly rewarded. Sen has pointed out that there are sharply conflicting interpretations of the concept of desert. This is because different views can be taken of how to evaluate economic contributions as well as the role of inequality in economic motivation.

These are the sorts of issues to which everyone, including the trade unions, should be addressing their views. As a book to equip one self for this task, Atkinson's book clears the ground and provides a useful starting point for drawing up the agenda for political debate, as well as for further research. While the economist and sociologist will have to work side by side, it is a pity that the book is not more fully functional.

Ernest Gellner



## Farming communities

Salina and Politics: Essays in the Organization of a Senegalese Peasant Society  
by Donald Cruise O'Brien  
Cambridge University Press, £4.50  
ISBN 0 521 20572 7

Dr Donald Cruise O'Brien has acquired a considerable reputation as a specialist on West Africa and as a leading authority on one of the most fascinating social and economic phenomena of modern Africa, the Mouride brotherhood. The literature on cargo cults, on the desperate and hysterical attempts by some primitive peoples to emulate western technology by magic-religious means, may well have given the impression that when a society is disrupted by colonialism and turns to a religious cult, it will find spiritual consolation only at the price of economic helplessness. This is not always so: striking examples of success can be found, whether in the swampy lagoons of Nigeria or in the arid savannah of Senegal. The Hidden Hand, like the Cunning of Reason, can choose to operate through religious enthusiasm, rather than through calculated self-interest, if its ends require it. To the past, however, its operations have been described somewhat crudely: "The saints of the Mouride brotherhood... have consistently been portrayed by outside observers as a holy aristocracy enjoying great material privileges through the economic exploitation of some half a million poor peasant disciples. The discipline is described by a reviewer in the past world... Ple in the sky, according to this simple story, pays for peanuts here on earth: ... conspicuous wealth among the saints is... ultimately based on the saints' devotion to the cultivation of peanuts..."

It is Donald Cruise O'Brien's achievement to have corrected this simplistic story and told us how it was really done. There is a certain danger which faces a European who studies Muslim political or religious institutions and who relies on either documents or assertions. In modern Europe, people often boast of equality or of archy and domination; so we tend to discount egalitarianism and liberal rhetoric and probe for the social constraints underneath. In traditional Islam, it is often also necessary to discount, but in the opposite direction: it is the often exaggerated by the particular writings to present themselves as holier than they are. Donald Cruise O'Brien tells us how he realized that the proudly proclaimed exploitation and subjection was really a case of false consciousness, when his interpreter casually commented about a piece of land being devoted to a

footnote, the author apologizes, and blames much of his failure to realize immediately what this remark implied.

In fact, this is not subjection to return for merely fictitious, superstition-engendered rewards. The key to an understanding of the economic successes of the brotherhood lies in the organization of a mass movement of agrarian settlement. The Mourides... have established farming communities throughout a vast zone... of hitherto uncultivated land... The motive for agrarian colonization was strong... The opportunity had been created by the French administration. But these lands still remained arid and wilderness... and a still more dangerous presence of the nomadic pastoral Fulani. Those who wished to seize the opportunity... needed to be organized and fairly numerous... The need for organization, and for a numerical concentration of settlers was to be met by the saintly hierarchy of the Mouride brotherhood.

There is a striking parallel between the Mouride brotherhood and the Jewish Agency. Modern conditions had disrupted the status of the Jews of the Diaspora, and they had the communal organization of the Mouride brotherhood. The Mouride brotherhood was reorganized by the Mouride hierarchy, and the Jewish Agency was reorganized by the Jewish hierarchy. The Mouride brotherhood was reorganized by the Mouride hierarchy, and the Jewish Agency was reorganized by the Jewish hierarchy.

Dr Cruise O'Brien has already told the story in admirably documented detail in his previous work. The present highly readable collection of essays is a valuable addition to his work, exploring the general setting within which the Mourides worked and work. He tells us much about the state of Senegal, and his material does not merely tell us how it was, but how it is. He should one say anti-simply) point out: "The Senegalese state... has not properly been regarded as a near-monopoly... By colonial servants not merely account for over half the national budget... they use their control of administrative and marketing institutions to make further illicit profits... and to bring the privileged... the very effectiveness of the saintly intermediary... makes the agencies of state... easily acceptable to the Muslim... the saintly variant of... corruption can be shown to... brought some real benefits to the peasant masses... All elites are corrupt but the saint at least is functional."

Ernest Gellner

## Complexities of growth

Patterns of Economic Change in the United States: A regional study  
by C. James Siple  
Wiley, £6.75  
ISBN 0 8410 404 4

Sample's basic premise in this work is that patterns of regional economic development vary for many reasons, and thus it is important to identify the major elements in the growth of each separate region. His primary objectives are "to place in perspective the various forces affecting economic change and patterns of that change of regions of the United States" and especially, to analyse the importance of the economic base concept in regional development.

As the author suggests in his introduction, economists and other social scientists tend to lag in their responses to newly recognized problems of society, and this field of study provides no exception. The "regional problem" is one of long standing, but the literature of "regional economics" or "regional science" dates mainly from the early 1960s. In part this developing academic interest was a response, in the United States, to political activity which had resulted in Federal legislation aimed at stimulating the economies of "backward" or "legging" areas. Experience since that time has had at least one widely agreed result: to demonstrate how little is known about regional growth or how best to stimulate it with limited resources.

The emerging regional theories have drawn chiefly upon locational analysis and international trade theory but, although these do grapple with spatial variables, the approach has not yet yielded an adequate theory of regional growth and inter-regional relationships. It is not surprising, therefore, that the task of the developmental planner

in the United States has proved difficult and frustrating—especially in a nation accustomed to (or expecting) quick results. The apparent lack of solid achievement under the various Federal programmes seems to have been reflected in a loss of interest at the top level, and most of the programmes will run out of funds this year, unless swift action is taken by Congress. In this context, studies designed to advance knowledge of regional development processes are certainly welcome.

Dr Siple divides continental United States into four regions (North East, South East, Central and West) using the 171 Economic Areas identified by the Office of Business Economics as his building blocks. The major variable used for this regional division was per capita income in 1959. This was not entirely satisfactory, but in general the regions "approximate" regions that are relatively homogeneous in terms of socioeconomic characteristics" and thus provide a satisfactory basis for an analysis of change. Three measures of economic change for the period 1950-1966 are introduced, which are subsequently examined by means of regression and factor analysis using 49 variables.

These variables, grouped into 19 categories, represent "economic, social and political forces that have been considered to have relatively important influences on the pattern of economic growth and development". All 19 categories are critically appraised before their use in the interpretation of the various regional growth performances. Each of the four regions is examined within an identical framework, which tests the validity of the economic base model and attempts to identify the important factors in long-term and short-term economic growth.

The findings are interesting at the theoretical level. It is concluded, for example, that "the importance of growth in the export base in determining the rate of growth of total personal income decreases as the

level of economic development increases". The identification of important elements in long-term economic development is complex, but three variables emerge constantly as significant viz: the relative importance of national growth industries in the region, the relative importance of residential industries and the stock and "potential source" of financial capital. In discussing short-term economic growth, three variables appear in the relatively important factor that statistically explains the variance in the growth rates of total personal income viz: rate of growth of residential employment, net migration and rate of increase in financial deposits.

It is often difficult to distinguish between cause and effect in these matters and thus the findings do not always seem to be of immediate practical value to our hard-pressed planner. Moreover, the "regional problem" with which the planner is concerned often works itself out over smaller area units and in terms of different systems of spatial relationships—between metropolitan and inter-metropolitan peripheries, for example. Nonetheless, there is no doubt that the patterns of economic change in the United States are remarkably complex, and this study throws some new light on the processes and forces at work. There is evidence of rather in-depth proof-reading, with numerous misspellings or printer's errors; while the table titles are sometimes inadequate. What, for example, would be the appropriate content for a table entitled "Education Local Government"? In fact, as in some other tables, the unit of measurement is not clear, while tables such as "Rate of Increase in Residential Employment" seem to require dates. There is one strange reference to "Thunen in the early 1900s" but this could be another printer's error. The book is slightly marred by such imperfections and, occasionally, by a heavy style. But it will provide a useful addition to the shelves of economists and others interested in regional growth or the application of regression and factor analysis.

R. C. Estall

## Scenery

Geology and Scenery in Ireland  
by J. B. Whitlow  
Penguin, £1.00  
ISBN 0 14 02 1791 6

Dr Whitlow has recently been involved in the revision of Sir Arthur Trueman's classic, *Geology and Scenery in England and Wales*, and he has drawn on his detailed knowledge of Ireland to write this companion volume. The book is ground in less familiar and it is geologically rather more difficult; there seems no "easy" region with which to start, in no area are structure and surface so neatly related as in the scarplands of south-east England. In addition, the book seems less easy to read, too concerned with local detail, and, in a topographical sense, far from easy to follow. The few rather detailed maps do little to orientate the reader, and most atlas maps are quite inadequate as a basis for finding the many hills and valleys mentioned. Perhaps Dr Whitlow really intended this as a field guide and it would serve this purpose well.

In the field the absence of any comprehensive outline of stratigraphical history or of the glacial record would appear to be a disadvantage. It is really no surprise that the elements of a geological education into the early chapters. In any case, why is an account of Werner's Neptunist views regarded as a useful introduction for the twentieth-century amateur? It is, of course, never easy to describe individual landscape features which result from man's decision making. It is the interconnections between the various chapter topics which should provide the main thrust of a systems approach, whereas this text concentrates on an examination of the individual bricks allowing the shape of the final building to be somewhat obscured.

J. R. Tarrant

Keith Clayton

## Rethinking development

Beyond the Sociology of Development: Economy and Society in Latin America and Africa  
edited by Ivar Oxaal, Tony Barnett, David Booth  
Routledge and Kegan Paul, £6.95 and £3.95  
ISBN 0 7100 8049 2 and 8050 6  
Interdependent Development  
by Harold Brookfield  
Methuen, £4.60 and £2.25  
ISBN 0 416 78070 8 and 78080 6

The argument of these two books, which contribute to the rethinking of the study of development, is directed against those approaches which focus on the "obstacles" to development present in underdeveloped countries.

These obstacles were thought to consist in such factors as traditional forms of social organization, "improvised" voice systems, inadequate educational systems, poorly developed administrative apparatus or the lack of economic planning. The point of departure for reanalysis, to both books, is the interdependence of the world economy and, in particular, the argument that many of the features that have been taken to characterize underdevelopment are either produced by, or closely linked to, the ways in which underdeveloped countries have been incorporated into the capitalist system (and, of course, for some into the socialist system). Both books develop a sense of history in their analysis and, moreover, a sense that underdeveloped countries have histories; these countries and their institutions are not to be understood in resocialization to a more modern state.

Though this approach has become relatively familiar, both volumes extend the analysis by taking stock of the existing literature on dependency and economic imperialism and by applying these perspectives to a study of villages and regions. The two books complement each other well, too, that Interdependent Development is mainly concerned with the contributions of economics and geography to the study of development, while Beyond the Sociology of Development seeks to integrate the economics of underdevelopment with sociological and anthropological perspectives.

Brookfield's book is a succinct and stimulating survey of theories of growth, dualism, modernization, regional development and dependency. The survey of individual attitudes is, at times, too brief and incisive; also, his characterization of contemporary Marxist theorization on underdevelopment is somewhat superficial. Yet, he covers a considerable range of material with admirable brevity and exposition. One of Brookfield's achievements is to demonstrate the relevance of spatial considerations to the analysis of development, showing how location is an important factor in the maintenance and reproduction of both wealth and poverty. He extends his analysis by arguing that contemporary capitalist modes of centralization are inherently wasteful of resources, encouraging forms of life style and consumption in the centre (developed countries), but also produce relative scarcity at the periphery. Life conceptualization of scarcity as a product of forms of

spatial and social organization effectively counterbalances current emphasis on the technological possibilities of increasing resources.

My major misgiving is that, despite the sensitivity in the value of microscopic studies, Brookfield does not take enough account of the ways in which local level processes limit and interpret changes originating from the centre. He tends to characterize the historical development of underdeveloped countries in terms of changes in their most visible institutions, such, for example, as the hacienda system, whereas it is likely that crucial factors were smaller scale processes such as demographic changes or changes in the nature of peasant farming. Despite this qualification, this is an excellent introduction to the analysis of development which has the great advantage of providing a coherent and stimulating theoretical perspective.

Beyond the Sociology of Development is a collection of essays by sociologists, anthropologists and economists that range from empirically based analyses of the agrarian structure of Latin America and Africa to review articles concerned mainly with theories of economic dependency. It is a thesis, and especially the work of A. G. Frank, that are meant to provide a common frame of reference for the empirical studies.

Dependency theory was developed mainly in Latin America and is the analysis of the continuing structural consequences of the penetration of underdeveloped societies by foreign capital and technology; dependency is an internal structure of social and economic relationships that inhibits independent economic growth and prevents the emergence of a strong national political organization. The theory is carefully and insightfully documented in the articles by Philip O'Brien on theories of dependency, by Ivar Oxaal on dependency economics in the Caribbean and by David Booth on A. G. Frank. The emphasis of these authors is on the social and economic context in which dependency theory developed, showing clearly the importance of this theory in breaking the intellectual hegemony of the West in interpreting development.

The relativism of these articles, however, means that the theoretical perspective does not succeed in providing a coherent framework for the collection. The chief problem is that dependency theory, and especially the work of Frank, is relatively insensitive to variations, within and between countries, in the impact of capitalism on underdeveloped countries is the theme of Caroline Hutton and Robin Cohen in their critique of theories of development concerned with local resistance to change. John Clammer's article on French Marxist anthropology analyses non-capitalist modes of production and the various possible relationships that can develop between such modes and a developing capitalism.

Bryan R. Roberts



## United for the apocalypse

Hitler: The Führer and the People  
by J. P. Stern  
Fontana, 80p  
ISBN 0 00 633674 4

Four Hitler biographies of very varied quality have already appeared during the past 18 months so that the publication of one more book on Hitler was not calculated to arouse enthusiasm. But fears of yet another trip down the well-trodden path from *Drumwax am Inn* to the Reich Chancellery bunker were allayed by the fact that the author was a distinguished scholar of nineteenth and twentieth century German literature. Indeed, far from being a conventional biography, Professor Stern's book sets out to look "not so much at Hitler the man as rather at the appeal he exercised through his speeches, writings and conversations, through his promises and achievements." The author argues that the key to understanding the Nazi phenomenon lies in the connection between Hitler's beliefs and values and those of German society. Stern sees Hitler as "a representative individual" of his time, who "preserved contemporary thought to the point of an return." What then were the values common to this individual and his adopted society?

The dominant themes, the author argues, derive from the peculiar character of German romanticism as it had developed during the

nineteenth century: the emphasis on personal authenticity and on self-fulfilment through experience as against the adherence to codes of morality or the dictates of reason; the dominance of the idea of Nature (but now with a biological rather than a poetic emphasis), culminating in social Darwinism; on anti-metaphysical, scholastic private values indifferent to liberty. These themes are then considered in the context of various aspects and events of the Third Reich: propaganda, opposition, the legal system, the Röhm putsch and so on.

Landed at from a historian's standpoint, the problem with this kind of approach comes when it moves from the plane of ideas to a specific historical context. For example, from arguing that the notion of conflict and strife are the only value in life lies at the heart of Hitler's thinking, the author goes on to suggest that "much of his political practice will consist in seeking out and creating emergency situations likely to keep the spirit of conflict alive. Here it seems to me lies the meaning of the unsuccess of June 1934." In other words, instead of the Röhm putsch coming from a major and complex crisis of the regime which, given the nature of the forces involved offered very little alternative to the murder of Röhm, it is implied that Hitler really chose the purge because of his belief to conflict and strife.

Another problem with this approach is that it lacks a concrete social dimension. It is a very undifferentiated view with little awareness of Germany being a society divided into groups and sub-cultures with differing values, outlooks and responses. Few would deny that Nazism was rooted in elements of nineteenth-century thought, and could exploit many aspects of German political culture. The author is right to draw attention to German indifference to liberty, though he is wrong in suggesting that historians have neglected it. One of the most brilliant works on German history is still in English since the war, *Germany: A New History* by E. H. Carr, which, with great subtlety, the emergence of a distinct German concept of freedom.

But although Neizoi appealed to certain national characteristics, it had a multifaceted appeal. Different groups responded in different ways to different aspects of it. The author devotes only a page to what he calls "the more mundane explanations and analyses which have helped to form our picture of the Third Reich": economic distress, fear of communism, full employment, hostility to Versailles. Yet one is inclined to wonder whether these were not stronger springs of action for most people than the more rarified ideological explanations he puts forward.

The analysis works best when it is dealing with those who were directly

influenced by debased romanticism—alienated middle class young people and Akademiker for whom "Erlösung" was all and all was "Erlösung"; and there is an illuminating analysis of the way in which Hitler evolved a political style to exploit these outcasts. But when Professor Stern develops the theory that the aim of Hitler's rule was to satisfy his yearning for omniscience, can one seriously maintain that the coal miner in the Ruhr, the Catholic farmer in Bavaria and the Jew in the Russian front really shared such apocalyptic urges? Was this really why the German people followed Hitler? The attitude of the population to the outbreak of war in 1939 does not suggest that they were eager to join Hitler in a *Götterdämmerung*.

The bases of support for the Third Reich have hitherto received little detailed analysis. Public opinion, particularly before the war, is a largely uncharted field. Professor Stern's book must be welcomed even though its ideas are controversial, because at last it directs attention away from the purely biographical approach towards the central issue of the Führer and his Volk.

Jeremy Noakes

## Malignant policy

Italian Foreign Policy 1870-1940  
by C. J. Lowe and F. Marzari  
Routledge & Kegan Paul, £12.50  
ISBN 0 7100 7987 7

Eighty in the series *The Foreign Policies of the Great Powers*, edited by Professor Lowe, this volume lives up to the high standard of academic establishment and robust analysis established by the earlier volumes. It is in two parts, one dealing with policy from 1870 until the outbreak of fascism, one covering the fascist period to 1940. There is no indication of which author wrote which section, but it seems a reasonable assumption that the first part is Lowe's and the second Marzari's. The initial period, of the 1870s and 1880s, does not provide much, but Professor Lowe makes some sensitive judgments, and traces a clear route through the intricacies of the years when the Triple Alliance came into being. His sympathies lie with the men of the right rather than with those of the left, and especially with the belated foreign minister, Robilant and Visconti Venosta. There is here the kind of appreciation which Croce felt for the as yet unexplored policies of the party of the right, the successors to Cavour who were not going to risk the kind of gambles he had made with such striking results.

With the arrival of Crispien, the scene a prudently negative policy was replaced by a tragically foolish one, and a strong note of fate enters the story. Professor Lowe shows how Crispien's erratic policy and absurd posturing anticipated many of the blunders of the later period: "Practically all D'Annunzio's nonsense about the joys of war can be found in Crispien's writings forty years before."

Professor Lowe's interpretation of Italy's position in the aftermath of the First World War is interesting and convincing. The acquisition of Trieste and a superb strategic frontier in the Adige were too much more important than Fiume than the only blindness and greed could depict the Italian victory as a "mirrored" one. For Italy to become a revisionist power after 1918 was absurd, and the obviously brought with it the nemesis of fascism and the disaster of the Second World War.

This theme is taken up in part two, where Marzari summarises Mussolini's foreign policy as "one which was by turns ambivalent, fustian and malignant", one "served mostly to exacerbate the conflicts and to promote the 'lunatic' record of malignancy is shown to have been the brief period from 1932-35 when he was on the rise of the Italian Fascist movement."

There follows a very lucid account of the complex origins and developments of the Abyssinian war, and the subsequent steady and dreadful escalation of Nazi predilections. There is an unavoidable sadness surrounding the consideration of this book, since one of its authors, Frank Marzari, died before its publication in a car accident. Both were comparatively young historians—Marzari only 33—and Lowe's contributions to Italian national history already showed him to be a balanced and reliable scholar. Marzari has inevitably left a gap in the series, but his work is a completed work, and his death a loss to the world of letters.

References in the literature after 1971 are scarce and the usefulness of the major feature of the book, the many tables of data, is hampered by a lack of selectivity and critical analysis. The reader will commonly have to consult the original literature in order to ascertain the information supplied and to judge its reliability.

Harry Hearder

## Eastern words

A Dictionary of Oriental Literature has been published in three volumes by Allen & Unwin at £5.85 each. They deal with East Asia, South and South East Asia, and Africa respectively and are edited by Jaroslav Prusek. The entries give information about the life and work of the individual writers.

Agatha Ramm

## Counter-insurgency

The Communist Insurrection in Malaya 1948-60  
by Anthony Short  
Muller, £8.95  
ISBN 0 584 10157 0

When the Malayan emergency ended in 1960 the Malayan government arranged for this University of Malaya, in the person of Anthony Short, to write its history, giving him unrestricted access to their secret papers. It took him eight years to write it but when he gave it to them they decided not to publish it. It took even more years of argument to get it into print—and here it is at last, fifteen years after it was begun. Was it worth all this agony and frustration? Has the Malayan Emergency anything pertinent to teach us? I believe that it has.

The Malayan Communist Party organisation was laid bare as no other revolutionary structure has ever been laid bare. Because they fought with such tenacity, the guerrillas were accounted for branch by branch, even man by man. Because of their habit of carrying documents and photographs in their pockets, Special Branch built up a personal record of every man and woman in every headquarters, branch committee and platoon in the jungle. Because the Chinese rely so much on their extended families for support, Special Branch also knew a great deal about the party cadre organisation in the villages. By the mid-1950s they had a similar knowledge of the cell structures among Chinese students, and of the party's organisation for intelligence, training and selection of new recruits.

Where revolutionary parties are open and legal, as in Britain, they do not devote much effort to clandestine structures but if they are banned they do. The theory of such structures is well documented but the student of revolution—whether he sees himself as a revolutionary, or as a counter-revolutionary, or as simply a scholar trying to understand a contemporary phenomenon—has all too little opportunity to study in detail how they function. The Malayan experience analyses him to do so.

It also provides an opportunity

to examine the anatomy of a successful government campaign to defeat a violent challenge to its authority. This challenge was a highly professional one. Even though, as a Chinese challenge, it never had any hope of attracting the support of the Malay majority, it came reasonably close to success. It was a great deal bloodier than Northern Ireland—as many were killed in the last five years in Ulster. It could have become bloodier still, but the government played things down, and never lost its determination to govern. It introduced whatever regulations it considered necessary—not without complaint. By 1953 there were 150 pages of Emergency Regulations covering not just terrorist offences but registration of the population, identity cards, and strict rationing of the supply of food and other necessities. These regulations have been studied by government officials over the world.

Many of the lessons are relevant to almost any violent internal conflict. A highly effective intelligence system was developed—not half a dozen rival ones. Public information services were good. So was the propaganda aimed at the guerrillas and their supporters, and it was run by a team of Chinese and Europeans. The handling of surrendered guerrillas was thoughtful and practical; the aim was to seek their cooperation, not to punish them; and it worked. Perhaps the most valuable lesson for political scientists was the structure developed for joint civil-police-military control, not only of operations but also of civil measures, such as curfew, registration, food rationing. This ensured that military operations which might have no direct effect on either police intelligence or on public opinion were curbed.

The book is particularly strong on the higher levels of government organisation, though it is not clear that the circumstances prevented the author from giving references to unpublished documents. For a reference book a fuller table of contents with more explicit subheadings would have been useful, and the author really should have checked the index in detail himself. It is not fair to expect professional intelligence to know a specialised subject intimately, and the shortcomings are a nuisance. The book should, however, find a place on the shelves of any serious student of British or Asian history or of political violence, for to an official history of a conflict whose lessons remain highly relevant to the contemporary world.

Richard Clutterbuck

## Territorial expansion

War of Illusions: German Policies from 1911-1914  
by Fritz Fischer  
Clarendon, £12.00  
ISBN 0 7011 1972 1

Professor Fischer is especially associated, if not its actual founder, with the school of historians now in West Germany who interpret the history of the German empire as a *Fehlentwicklung* or development in the wrong direction. It is well known that he established his reputation in this country with *Deutschens Griff nach der Weltmacht* (published here as *Germany's Aims in the First World War*), which co-edited the determination to have a war among causes circles in Germany, but does not mention Fischer's conviction, which Fritz Fischer does document, that war might be inevitable mean that he shared this determination? Where does one draw the distinction between preparing war as Bismarck prepared the war of 1864 and 1866 and pursuing a policy that would prevent war, if possible, and yet make Germany prepared and unafraid if prevention proved impossible? A possible interpretation is that the motive of avoidance may have been paramount up to a certain date, but then, as the situation changed, the motive of preparation changed. Or would Professor Fischer, so far as to argue that had Bismarck had as much power to dominate circumstances as Bismarck had (and even he was limited) he would still have prepared an aggressive war of territorial and economic expansion? Much in the argument hinges on the build-up of the case against Russia.

The war Bismarck chose to fight (but did he choose?) was a war against Russia, not a war against Britain or even a war against France and the United States. The purpose of the war was to gain the only direction that was still open after attempts in other directions had been frustrated or were disapproved in a way that was galling to people imploring with the dynamic energy that existed behind the social tensions of 1914.

Professor Fischer's bold and coherent interpretation of Bismarck's motives still prompts additional questions, but gives added interest to the masterly manner in which he disposes the detail in a story whose outline is now generally agreed upon. The translation is marred by such mistakes as "pamned up" for "permeated", "continuously" for "continually", and "to neutralise Britain" for "to cause Britain to be neutral".

Did Bismarck choose to go wrong because he was weak, because the political system, and especially the Emperor's part in it, left him no alternative or because he shared the ambitions of the military and the exact nature of the fault, one

is left in no doubt that the fault was Bismarck. However, Fritz Fischer does not err on the side of generosity and the reader is tempted sometimes to exclaim "but how do you know?" He writes with absolute assurance that Bismarck's motive for seeking an improvement in Anglo-German relations in 1912-14 was to ensure British neutrality in a possible continental war.

Professor Fischer may be right about Bismarck's motives—how can one know?—but his conclusion rather by the confidence and coherence of his interpretation than by unimpeachable evidence. He can give more than enough evidence for the determination to have a war among causes circles in Germany, but does not mention Fischer's conviction, which Fritz Fischer does document, that war might be inevitable mean that he shared this determination? Where does one draw the distinction between preparing war as Bismarck prepared the war of 1864 and 1866 and pursuing a policy that would prevent war, if possible, and yet make Germany prepared and unafraid if prevention proved impossible? A possible interpretation is that the motive of avoidance may have been paramount up to a certain date, but then, as the situation changed, the motive of preparation changed. Or would Professor Fischer, so far as to argue that had Bismarck had as much power to dominate circumstances as Bismarck had (and even he was limited) he would still have prepared an aggressive war of territorial and economic expansion? Much in the argument hinges on the build-up of the case against Russia.

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## BOOKS

## Survey of elements

Encyclopaedia of Electrochemistry of the Elements, Volume II  
edited by Allen J. Bard  
Marcel Dekker, £30.00  
ISBN 0 8247 6135 9

Electrochemistry is a rapidly expanding discipline of considerable promise and fulfilment, both on the academic side and for industrial application. There is therefore a place for a series such as is represented by this volume, the second member of a sequence which comprehensively surveys the electrochemistry of all the elements and their compounds. The book costs £30 and comprises 515 pages, in which just eight elements are dealt with, namely hydrogen, oxygen, arsenic, niobium, tantalum, rhenium, technetium and copper. At this rate, we would expect to survey the whole of the periodic table in 6.531 pages at a total cost of £384—such a figure would clearly be in the mind of anyone contemplating the possible purchase of these books by their institutional library. The randomness of the eight elements surveyed here (and the 17 surveyed in volume one) seems remarkable and apparently stems from the policy of publishing chapters as soon as enough are received from the contributors to make up a volume. This haphazard approach must necessarily reduce the usefulness of individual volumes to private purchasers.

Topics which are covered in each chapter (where appropriate) are: standard and formal potentials in aqueous and non-aqueous solutions and in molten salts, polarographic and voltammetric characteristics, kinetic studies, experimental studies of electrochemical reactions, electrocatalysis, electrorefining, electrodeposition, corrosion, and batteries and fuel cells. The chapter on nitrogen, by J. P. Moore, is lengthy (191 pages) as he fits this important element, and the same applies to copper by V. Bericelli and D. R. Turner, at 114 pages. The authors have performed their tasks very adequately and, with a few exceptions, is well-presented and bound, have produced a useful compendium.

F. A. Hart

## Volume three

Encyclopaedia of Electrochemistry of the Elements, Volume III  
edited by A. J. Bard  
Marcel Dekker, £30.00  
ISBN 0 8247 6135 9

The Encyclopaedia of Electrochemistry of the Elements is a series of publications intended to provide a critical, systematic and comprehensive review of the thermodynamics, kinetics and applications of the electrochemical processes associated with each of the elements and their compounds.

The three chapters in volume three cover the electrochemistry of phosphorus, cobalt and nickel. The length and content of the chapters vary considerably. Unfortunately, these differences seem to reflect only the style and interests of the authors rather than the merit of their topics and the reviews also show surprising variations. These shortcomings are highlighted by the treatment of nickel and cobalt in this volume: are these metals similar?

References in the literature after 1971 are scarce and the usefulness of the major feature of the book, the many tables of data, is hampered by a lack of selectivity and critical analysis. The reader will commonly have to consult the original literature in order to ascertain the information supplied and to judge its reliability.

By the high standards set out by the editor, this volume cannot be considered a success and I cannot recommend it. No doubt the price will deter all but the most determined buyer.

D. S. Uch

## Glassy states

Molecular Behaviour and the Development of Polymeric Materials  
edited by A. Ledwith and A. M. North  
Chapman and Hall, £12.00  
ISBN 0 412 12400 9

In this collection of essays on various aspects of polymer science, questions of preparative chemistry, properties of bulk polymers and reviews on some of the more recently developed commercial polymers are dealt with. As far as possible attempts have been made to relate the topics to molecular properties as the key to understanding of the macroscopic behaviour. The first three chapters deal with polymer chemistry, treating in turn ionic polymerization, the behaviour of complexed radicals, and initiation by some organo-metallic compounds: these are all useful reviews of areas which have developed strongly in recent years. The book then discusses, in separate chapters, elastomers, based on butadiene, elastomers in general, polyolefins and polyurethanes. Each of these has something of interest to offer but the review of elastomers is particularly recommended for its interesting combination of history, commerce, technology and science. At the end there are two chapters which together constitute the most novel features of the book. One deals with chemical reactions on polymer fibre surfaces. It may not be widely appreciated that the uni-directional orientation and high surface/volume ratio between these control not only the mechanical properties but also such qualities, more difficult to quantify, as wettability, soiling and huddle.

A. D. Jenkins

## Morass of sines

A Foundation for Quantum Chemistry  
by A. R. Denar  
Batterworths, £5 and £2.50  
ISBN 008 70672 4 and 70673 2

Why write yet another book on an introduction to the fundamentals of quantum mechanics? One reason could be a compelling new and original approach, another might be a different way of presenting well tried ideas (e.g. "programmed learning"), yet another reason could be to overcome problems and rectify deficiencies in existing books. The author's intention is also to consider which leads in the next chapter inexorably to the hydrogen atom. The treatment of this subject, as with the examples discussed in the earlier chapters, is based on the conventional approach. And here the book ends with no perhaps now moribund ways of presenting a topic. Unfortunately, this book can afford none of these excuses for having been written. It plods along the well worn basic quantum mechanical path and deposits the chemist (who fortunately was hoping to learn something about chemistry or physics) in an exhausted heap at the hydrogen atom. However the title does promise only foundations, and foundations is what the book contains. An introduction to the ideas of wave mechanics is followed by a whole chapter on the particle in a box by way of example. By restricting itself to the most elementary mathematics the author has ensured that all his derivations and proofs are long, cumbersome and tedious. It may be that every step is written down but the reader is in danger of being engulfed in a morass of sines and cosines, sines and cosines.

D. S. Uch

## Survey of reaction dynamics

Molecular Reaction Dynamics  
by R. D. Levine and R. B. Bernstein  
Oxford University Press, £5.00  
ISBN 0 19 855477 X

Molecular reaction dynamics and the microscopic view of the mechanism and rates of chemical reactions is central to the understanding of chemistry. Both experimental and theoretical aspects of reaction dynamics have, advanced greatly in recent years, mainly because of the advent of powerful new techniques—such as molecular beam scattering, infrared emission and computer-assisted theoretical work. However, there have been very few authoritative overviews of

Levine, who is a acknowledged authority, now provides an elegant survey of molecular reaction dynamics which is at the same time elementary but not superficial. The approach is non-mathematical, and the relationship of experimental findings to hypothesis and theory is carefully emphasized throughout. Most chemists should find the book instructive and interesting, and parts of it will be useful in third-year undergraduate courses. As an introductory text for research students in gas kinetics and related areas, the book will be most valuable, being well produced with plenty of clear and carefully labelled diagrams.

M. A. A. Clyne

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**BOOKS****For biologists and medics**

Biochemistry  
by Lubert Stryer  
W. H. Freeman and Co., £9.40  
ISBN 0 7167 0174 X

Principles and Problems in Physical Chemistry for Biochemists  
by Nicholas Price and Raymond Dwek  
Oxford University Press: Clarendon Press, £5.50 and £2.35  
ISBN 0 19 854129 5 and 854130 9

Biochemistry is a clear and interesting account of the subject with a bias towards fashionable areas such as protein synthesis and X-ray diffraction. It begins with a section "Conformation" on proteins, enzymes, and membranes. "Generation and Storage of Metabolic Energy" is a brief account of "classical" metabolism from the urea cycle to photosynthesis; it is followed by "Biosynthesis of Macromolecular Precursors" and "Information", which is about protein synthesis and nucleic acids and is the best part of the book. The final section "Molecular Physiology" covers immunology, muscular contraction and cell mobility. The book is quite remarkably up to date with an excellent set of references, and some useful problems.

Stryer has taken care to make more of the relationship between biochemistry and medicine than is usual in a book of this type. For example, there is a whole chapter on sickle-cell anaemia, which must certainly be relevant to the student. But, although many biochemists have taken pleasure in identifying rare diseases involving some obscure biochemical lesion, I doubt the value of, for example, the list of glycogen storage diseases in a general course in biochemistry.

The greatest disappointment is the lack of emphasis on experimental methods. Biochemistry remains above all an experimental science; yet the author attaches little importance to methods. Most techniques are woven into the text in an arbitrary way which might make it necessary to read the book from beginning to end to learn how one would go about an experiment. There is only one page on protein purification and this includes the account of both gel-filtration and ion-exchange chromatography. There is little biology—nothing on the structure of the cell and not much on control of reactions or hormones.

The book is very well written and interesting. There are nearly seven hundred diagrams beautifully drawn in five colours and many photographs, which are well chosen and illuminating. A few are perhaps almost too clever: a diffraction pattern of the Parthenon raised as many problems as it solves. I strongly advise students to read this book but not to make it the only one they buy.

Physical chemistry is as important for students of biology as for those in any other science and the only way to learn it is by doing examples and calculations. Many biochemists have difficulty with physical chemistry and cannot see its relevance. *Principles and Problems in Physical Chemistry for Biochemists* is a short account of the basic physical chemistry that a first year student in biochemistry should know, together with nearly a hundred problems that have been used in teaching.

The text is clear and concise. It is rather pedestrian in style. It starts with an account of basic thermodynamics and after a chapter on the binding of ligands to macromolecules, considers the thermodynamics of solutions and properties of electrolytes. The next chapter is about acids and bases and explains clearly how to deal with pH—a concept that is supposed to be simplifying but that many students find mystifying. Chemical and enzymic kinetics are covered, and the two final chapters deal with spectroscopy and radiobiology.

Relevance to biology is emphasized throughout, but the account is firmly on principles, with many worked examples. In some ways the text falls between two stools: it is too long to be simply revision notes, but too short to be a student's main text. The subject for the first time needs more amplification in background material.

The best part of the book, and what will make it very valuable for teaching, is the problems. They cover all the text, as well as introducing a few ideas such as hydrophobic interaction and the notion of molecular weight by sedimentation that are not mentioned in the text. They range from the very straightforward to the advanced, though none are really complicated and almost all of them have a chemical content. The answers are given very fully, often with explanatory comments.

The book is reasonably priced in paperback, and should be well worth buying for most students; there are none who would not benefit from doing the problems.

Simon van Heyningen

**Textbooks**

General Chemistry: Principles and Structure  
by J. E. Brady and G. E. Humiston  
Wiley, £7.95  
ISBN 0 471 09530 3

What is Chemistry? A Chemical View of Nature  
by Joseph Nordmann  
Fisher and Now, £5.50  
ISBN 0 06 044854 7

Large increases in printing and publishing costs do not seem to have diminished the rapid flow of elementary textbooks written for the American freshmen market. Presumably, students who wish to enrol in medical schools have to take freshman chemistry courses and so this area is still lucrative for the publisher. These attractively produced books are generally of little value as course-books for undergraduates at courses at British universities, but they can be a useful source for illustrations and teaching aids. For example, *General Chemistry: Principles and Structure* by Brady and Humiston uses computer-generated stereo (three-dimensional) drawings to illustrate a wide variety of molecular phenomena. These pictures when viewed through a simple viewer, which is provided with the book, give the student an excellent three-dimensional impression of closely packed spheres, molecular structures and crystal lattices. The authors have also used these stereo drawings to illustrate the three-dimensional spatial characteristics of atomic and molecular orbitals.

What is Chemistry? A Chemical View of Nature by Joseph Nordmann provides some very useful illustrations and questions for lecture preparation, an environmental chemistry course. It has good line drawings of many industrial processes and photographs which illustrate environmental effects. The book also has many open-ended and "provocative" questions on demography, genetic engineering and environmental matters, which would be suitable for tests and tutorials.

D. M. P. Mingos

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Chemistry and the Needs of Society  
Chemical Society, £3.00  
ISBN 0 85186 218 7

Basic Organic Chemistry, Part 5:  
Industrial Products  
by M. Tishler, A. Nehratal and  
A. H. Jubb  
Wiley, £12.00 and £5.75  
ISBN 0 471 85014 4 and 85016 0

During the first half of this century the sum of problems which required chemical solutions were clearly defined. Infant mortality and tuberculosis served as constant reminders of the fragility of life and the remedies for many infectious diseases were either primitive or non-existent. At times the medicines used caused more harm than good because they were either toxic or had unfortunate side-effects. For example, syphilis was treated using toxic arsenic and mercury compounds. In the inter-war years the synthesis and screening of an incredible number of organic compounds produced some anti-bacterial drugs which helped combat common infections. The work culminated in the preparation of a commercial scale of the "wonder drug"—the sulphamonomidazole, penicillin and streptomycin during, or soon after, the last war. These drugs decreased the incidence of infections and many other common infectious diseases. In those successful post-war years it seemed impossible for any disease to survive the onslaught of the synthetic organic chemists working in the pharmaceutical industry.

In other fields too chemists were making important advances: pesticides and herbicides improved crop yields; polymer chemists produced a wide variety of plastics and paints with properties which were at times superior to those of traditional materials. In addition these products could often be produced very cheaply because they were synthesised from oil bought inexpensively from the Arabs.

In the 1960s the community's faith in the wonder products of the chemical industry was strained by several events. The thalidomide tragedy demonstrated that even modern pharmaceutical products could produce terrible side-effects, and emphasized the need for more careful screening and testing of drugs before they were made available to patients. The accumulation of chlorinated hydrocarbons in birds and mammals indicated that greater care was required in the use of pesticides and herbicides. In addition the United States' savage defoliation programme in Vietnam alienated many young people, especially in America, who began to identify the chemical industry with the "industrial-military complex". The realization that effluents from some chemical factories were polluting rivers and lakes furthered this image of the chemical industry as "a profit at anybody's expense business". Finally, the Middle East war and the enormous rise in oil prices moderated the cheap energy and throw-away philosophy which encouraged the rapid growth of the chemical industry since the war.

In response to this growing uneasiness the Chemical Society organized a symposium entitled *Chemistry and the Needs of Society* to review chemistry's past achievements, highlight possible new areas for important research and give a balanced view of current pollution problems. The lectures which were presented at this symposium have now been printed in a paperback form by the Chemical Society. This book will undoubtedly prove useful for those lecturers who are preparing courses on environmental chemistry, and should be set as compulsory reading for all chemistry undergraduates. In the present social and intellectual climate it is important to give undergraduates a broader view of the successes and mistakes of the chemical industry. The book is well balanced with major chapters on resources, food

supplies, health pollution, chemical materials and economic aspects of chemical innovation. Dr. Walter's chapter on carbon and hydrogen sources is particularly interesting because it attempts to evaluate the effects of the recent oil price rises on the energy policies of the industrialized countries. In this chapter he makes the important point that three-quarters of all the oil known to exist has been found in the Middle East during the past 20 years and that there is no other remotely similar sedimentary basin in the world.

If the reader's appetite for a knowledge of the chemical industry has been whetted by *Chemistry and the Needs of Society* perhaps he will then turn to *Industrial Chemistry*, the fifth volume in Wiley's *Basic Organic Chemistry* series. This volume gives a detailed and almost comprehensive account of the reactions and processes used in the organic chemical industry. Following a brief historical introduction and an outline of the major economic factors influencing decisions within the chemical industry by A. H. Jubb, the book describes many industrially important organic reactions. In order to present an accurate and topical account of practices within the industry, the editors have used contributions from over thirty industrial chemists, who have been involved with the processes described. This approach makes the book useful not only to undergraduates and teachers but also to research workers in universities who are interested in relating their research to industrial needs. The book will be particularly helpful in this respect to organometallic chemists, because organometallic catalysts are discussed in some detail in the chapters dealing with petrochemicals.

This book is unlikely to be read from cover to cover, but will serve as a very useful reference work.

D. M. P. Mingos

**Tellurium chemistry**

The Organic Chemistry of Tellurium  
by K. Irgolic  
Gordon and Breach, £12.80  
ISBN 0 677 04110 1

On supposing that the new mineral he had found in 1783 contained a new element, Franz Joseph Müller sent a sample to T. O. Bergman, but unfortunately the latter died before he could report his findings. Müller persisted, however, and a further sample sent to Klaproth ensured the identification and isolation of tellurium in 1798.

The first report of an organic derivative of the element is dated 1840, making organotellurium among the earliest of synthetic organic compounds. Despite this early start, the rest of the nineteenth century did not see a total of twenty papers on organic tellurium compounds. In the early part of this century, however, the field was cultivated, and some chemists made remarkably extensive contributions. Thus for example, Laderer published thirty single-author papers in the period 1910-1920. From 1950 to the present time we have seen the exponential growth in publications on organotellurium chemistry that has been so characteristic of organometallic and organometalloid chemistry for the last quarter century. This volume sets out to classify the main areas of organotellurium chemistry, and is a complete account of the literature up to 1971. In such a comprehensive treatise the excellent author and subject indexes are much appreciated, and enable the reader to gain access to data with some ease. After an adequate introduction to general tellurium chemistry, subsequent chapters cover the synthesis and properties of the extraordinary range of organotellurium derivatives currently known.

Physicochemical studies reported cover, infrared, ultraviolet, visible and nuclear magnetic resonance spectroscopy, etc., along with mass spectrometry and diffraction studies. Comprehensive tables of compounds and data make this a valuable work of reference. The author refers to about five hundred references, but not to more than twenty papers on organic tellurium compounds. The latter contain the usual claims of: antiknock agent, additive to crank case oil, insecticide, and olfactory inhibitor, that are so beloved of patentees in organometallic chemistry.

The printing of the book is by typesetting/offset, with particularly well-presented reaction schemes and diagrams. Apart from a few typographical mistakes, and the odd reference which appears wrongly numbered in the bibliography, the book is very free of errors.

Edward W. Abel

**Reviewers**

Dorothy Wedderburn is director of the Industrial Sociology Unit, Imperial College, and a part-time member of the Royal Commission on the Distribution of Income and Wealth. Her publications include "Poverty, Inequality and Class Structure" (ed.) and "Workers' Attitudes and Technology".  
Ernest Gellner is professor of sociology at the LSE. His publications include "Culture and Ideology in the Social Sciences" and the "Devil in Modern Philosophy".  
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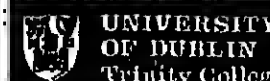
Further particulars of these appointments may be obtained from the Office of the Secretary to whom completed applications should be submitted not later than 24th June, 1975. Please quote Reference No. 1/49/2000.

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Applications are invited for a Lecturer in Statistics in the Department of Mathematics. The successful candidate will be expected to teach statistics at undergraduate and postgraduate levels. Salary scale £2,118-£4,896; threshold payment £220 per annum; superannuation under U.S.S. Further particulars and application forms may be obtained from: The Secretary, University of Aberdeen, Aberdeen 9. Closing date 24th June 1975.

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## Polytechnics continued

## Vacancies at

## NELP

## Faculty of Human Sciences

Department of Social Work, Health & Nursing  
Senior Lecturer in Health Visiting. Applicants should be registered Health Visitor Tutor to take charge of the Health Visitors' Course. Candidates should be on the C.E.T.H.V. roll of Health Visitor Tutors. Teaching experience in a Polytechnic or similar institution is desirable. (Ref. S/AO.2484)

## Faculty of Environmental Studies

Department of Civil Engineering  
Lecturer II/Senior Lecturer with an interest in one of the following subject areas: Concrete and Structural Materials, Structural Design, Soil Mechanics. Candidates must possess a degree in Civil Engineering and should be a member of the appropriate professional institution. (Ref. S/AO.2488)

## Faculty of Science

Readership in Biology  
Applications are invited from Candidates with appropriate research experience for a Readership in Biology to co-ordinate and promote research work with particular reference to biochemistry. (Ref. S/AO.2486)

Department of Post Graduate Molecular Biology  
Research Assistant required to work on the use of Vitamin O and Mg. Carboxy in the treatment of human and other malignancies. Suitable candidates will be encouraged to work to a higher degree. (Ref. S/AO.2489)

## Faculty of Business

Department of Applied Economics  
One year part-time appointment to teach first year economics (E.N.A. degree), while undertaking research into the environmental impact arising from social/economic change. (Ref. S/AO.2488)

Salary Scales Reader £5,001-£5,420  
Senior Lecturer £4,200-£5,412  
Lecturer II £2,870-£4,476  
Part-time Lecturer £1,335-£2,238  
Research Assistant £1,544-£1,664  
(Plus appropriate London Weighting and Cost of Living Allowance)

Further details and application forms:  
Academic Staffing Office (21, North East London Polytechnic, Forest Road, London E17 4JG, Tel: 01-527 2272, Ext. 157.

Closing date: 27 June, 1975

## North East London Polytechnic

Please quote plus reference no.

School of Business Management Studies  
SENIOR LECTURERS OR LECTURERS

## MARKETING

with substantial Marketing experience at a senior level to develop first degree and postgraduate programmes of study.

## ECONOMETRICS

with experience and qualifications to develop Econometrics at first degree and postgraduate levels.

## BUSINESS FINANCE

with experience in Merchant Banking, Stockbroking, City Institutional Operations or Management Consultancy and relevant degree and/or professional qualifications to develop Business Finance at first degree and postgraduate levels.

Salary on scales up to £7,710 per annum.  
Removal expenses assistance.  
Details from Director, Robert Gordon's Institute of Technology, Schoolhill, Aberdeen, AB9 1FR.

## DUNDEE COLLEGE OF TECHNOLOGY

## Faculty of Management and Social Studies

## Department of Accountancy and Economics

## LECTURESHIP IN ACCOUNTANCY

Applications are invited from candidates who possess a good honours degree or an equivalent qualification and who have had appropriate teaching, research or practical experience, for the Lectureship which involves teaching initially at undergraduate level, with an opportunity to take part in postgraduate and post-experience courses.

The Department is particularly keen to recruit staff with an interest and experience in Financial or Management Accounting or in the development of Management Information Systems using computer techniques.  
The successful candidate will have the opportunity to take part in the development of a new degree in accounting.  
Salary Scale: Lecturer I/A Scale via, £3,116-£4,445 with initial placing dependent upon approved prior experience.  
Financial assistance towards the cost of removal expenses may be payable.  
Further particulars and application forms obtainable from the Principal, Dundee College of Technology, Bell Street, Dundee, DD1 1HG, to whom completed application forms should be returned not later than 27th June, 1975.

Principal Lecturers in  
Accounting,  
Building Services,  
Graphic Design.

Salary Scale: Principal Lecturer £5,001 to £5,613 or £6,429 (plus threshold payment)

Application forms and details from:  
The Establishment Officer  
The Polytechnic,  
Wolverhampton WV1 1LY

## THAMES POLYTECHNIC

SCHOOL OF  
CIVIL ENGINEERINGPRINCIPAL  
LECTURER

Applications are invited from qualified Civil Engineers having substantial teaching experience in Polytechnic or University. The work of the school includes honours and degree courses and Higher National Certificate and Certificate work. Staff are engaged in research and consultancy. The successful candidate will be responsible for the administration and management of the school, including the recruitment and development of staff, and the provision of a high standard of education and training, as well as student welfare and counselling. There is also an opportunity for research and consultancy.

Salary Scale: £15,001-£15,613 (plus 10% London allowance and threshold payment). Further particulars and application forms may be obtained from the Secretary, Thames Polytechnic, Watlington Road, Kingston, Surrey KT1 2EE. Closing date: 25th June, 1975.

Further details and application forms from: The Academic Officer, (ND.13) Leeds Polytechnic, Colverley Street, Leeds LS1 3HE. Closing Date: 4th July, 1975.

## MANCHESTER

MANCHESTER POLYTECHNIC  
FACULTY OF MANAGEMENT  
AND BUSINESSSENIOR LECTURER IN  
MARKETING AND  
ADVERTISING

Candidates should have at least a good honours degree or equivalent professional qualification. They should have relevant experience in marketing and advertising, preferably in a Polytechnic or similar institution. The successful candidate will be expected to make a contribution to future development.

Appointments will be made at Senior Lecturer level. Salary scale: £3,116-£4,445 (plus 10% London allowance and threshold payment).

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## Overseas

## The British Council

invites applications for the following posts:

## Director, GCE Programme (Greece)

Athens College  
An American-sponsored Greek boarding school with 1,500 boys aged 8 to 19. Graduates preferably with higher qualification and approximately 10 years' teaching and administrative experience in "A" level. Men only, age range 30-45. Experience as Head of Department and some knowledge of modern Greek preferred.  
Salary: £5,063-£6,325 p.a. at present rate of exchange. Twenty five per cent paid in dollars outside Greece. Benefits: bonuses; medical scheme; employer's pension of superannuation; assistance with school fees; accommodation provided on campus. Contract for a negotiable period up to 3 years, renewable. 75 SS 133

## ELT Adviser (Nepal)

Institute of Education, Tribhuvan University  
Materials production, audio teaching.  
Graduate with qualification in TESL or applied linguistics and experience of TESL and teacher-training; UK citizen.  
Salary: £3,385-£4,264 p.a.  
Benefits: overseas allowance; free accommodation; medical scheme; employer's pension of UK superannuation. Two-year contract, renewable. 75 UO 118

## Lecturer in English (Cameroon)

Ecole Normale Supérieure, Bamili  
To lecture to student teachers on methodology of ELT/ESL plus some English literature teaching. Degrees, TEFL qualification and experience, knowledge of French essential. Teacher-training experience desirable. Preferably aged 30-40.  
Salary: £3,385-£4,264 p.a., tax free.  
Benefits: overseas and children's allowances; free accommodation. Two-year contract, renewable. 74 MT 26

## Lector in English (Romania)

University of Craiova  
Graduate in English with TEFL experience and preferably TEFL qualification. Single candidates aged 25-35 preferred. British nationals only.  
Salary: local salary of 3,500 Lei per month (£1,464 p.a. at present) tax free. Annual sterling subsidy of £1,374 paid in Britain.  
Benefits: medical scheme; free accommodation; employer's pension of superannuation. One-year contract, renewable.  
Return fares are paid. Local contracts are guaranteed by the British Council.  
Please write, briefly stating qualifications and length of relevant experience, to the Director of the British Council (Appointments), 65 Davies Street, London W1V 2AA.

Further details and application forms from: The Secretary, British Council, Watlington Road, Kingston, Surrey KT1 2EE.

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## BRITISH MEDICAL ASSOCIATION/

## BRITISH LIFE ASSURANCE TRUST

## Centre for Educational Development

ASSISTANT  
DIRECTOR

Salary: University Lecturers' Scale  
plus London Weighting

Applications are invited for the post which is concerned with innovation in medical and health education. Previous experience of conducting research and familiarity with educational technology are essential. Administrative experience and a medical background would be an advantage but are not essential. The post is challenging and requires initiative and imagination.  
Further details from the Director, Centre for Educational Development, British Medical Association, Tavistock Square, London WC1H 9JP.

SOCIAL SCIENCE  
RESEARCH COUNCILCambridge Group for the  
Population and Social Structure

The Group intends to appoint two research workers to assist the Director in his research into English demographic and social structural history, and in the publication of results. The Group is primarily interested in candidates whose postgraduate qualifications and experience are in historical sociology, quantitative or econometric history, or demography and statistics. The salaries attaching to the posts will be in the range £2,118 to £5,216 according to age and experience. Both newly qualified and senior research workers will be considered. Appointment will be for a period of not more than 3 years in the first instance.

Applications, giving details of qualifications and the names of two referees, should be sent to the Director of the Group at 27 Trumpington Street, Cambridge, CB2 1QA, and should reach him by 1 July 1975.

## Gibraltar

## Curriculum Co-ordinator

With the Department of Education to examine the curriculum in depth at all levels, make recommendations for change and co-ordination between and within levels, co-operate with local staff in implementing curriculum development. Applicants, under 55, should be qualified teachers with further training in inspection and advisory capacity or have been employed on relevant duties at a College of Education. Knowledge of Spanish an advantage. Appointment for two years. Salary in excess of current UK earnings plus a tax free overseas allowance. All emoluments paid by British Government; superannuation rights may be preserved. Other benefits include free family passages, paid leave, children's education allowance and free accommodation and medical attention. Applicants should be citizens of the United Kingdom.  
For full details and an application form please apply giving age and details of qualifications and experience to:-  
Appointments Officer  
Ministry of Overseas  
Development  
Room 317/RC  
Eland House  
Sleight Place  
London SW1E 5QH

Further details and application forms from: The Secretary, British Council, Watlington Road, Kingston, Surrey KT1 2EE.

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## Administration

KINGSTON  
THE POLYTECHNICSTUDENT HOSTEL  
ADMINISTRATOR

To manage hostel accommodation for students of the Polytechnic. The successful candidate will be responsible for the day-to-day running of the hostel, including the booking of rooms, the collection of fees, and the provision of a high standard of service to students. The successful candidate will also be responsible for the maintenance of the hostel and the provision of a safe and secure environment for students.

Further details and application forms from: The Secretary, British Council, Watlington Road, Kingston, Surrey KT1 2EE.

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## Delegacy of Local Examinations, Oxford

Appointment of  
Secretary to the Delegates

The Delegation invites applications for the post of Secretary to the Delegates. It is hoped that the successful candidate will join the Delegation during April 1978, and take over as Secretary on 1st October 1978, on the retirement of the present Secretary. The salary will be on the Oxford Professorial Scale, plus departmental allowance. The successful candidate will be required to have a University superannuation scheme. A person with teaching experience and a good administrative background is required, preferably in the age range 35-50. Salaries will not necessarily be limited to those applying.

Further particulars, and terms of application, to be returned by Tuesday, 15th July, 1975, may be obtained from the Secretary of Local Examinations, Ewell Place, Summertown, Oxford, OX2 7BE.

## Colleges of Education

## CARYSFORT COLLEGE OF EDUCATION

## BLACKROCK, CO. DUBLIN, IRELAND

## Applications are invited for positions as

## LECTURER/ASSISTANT LECTURER